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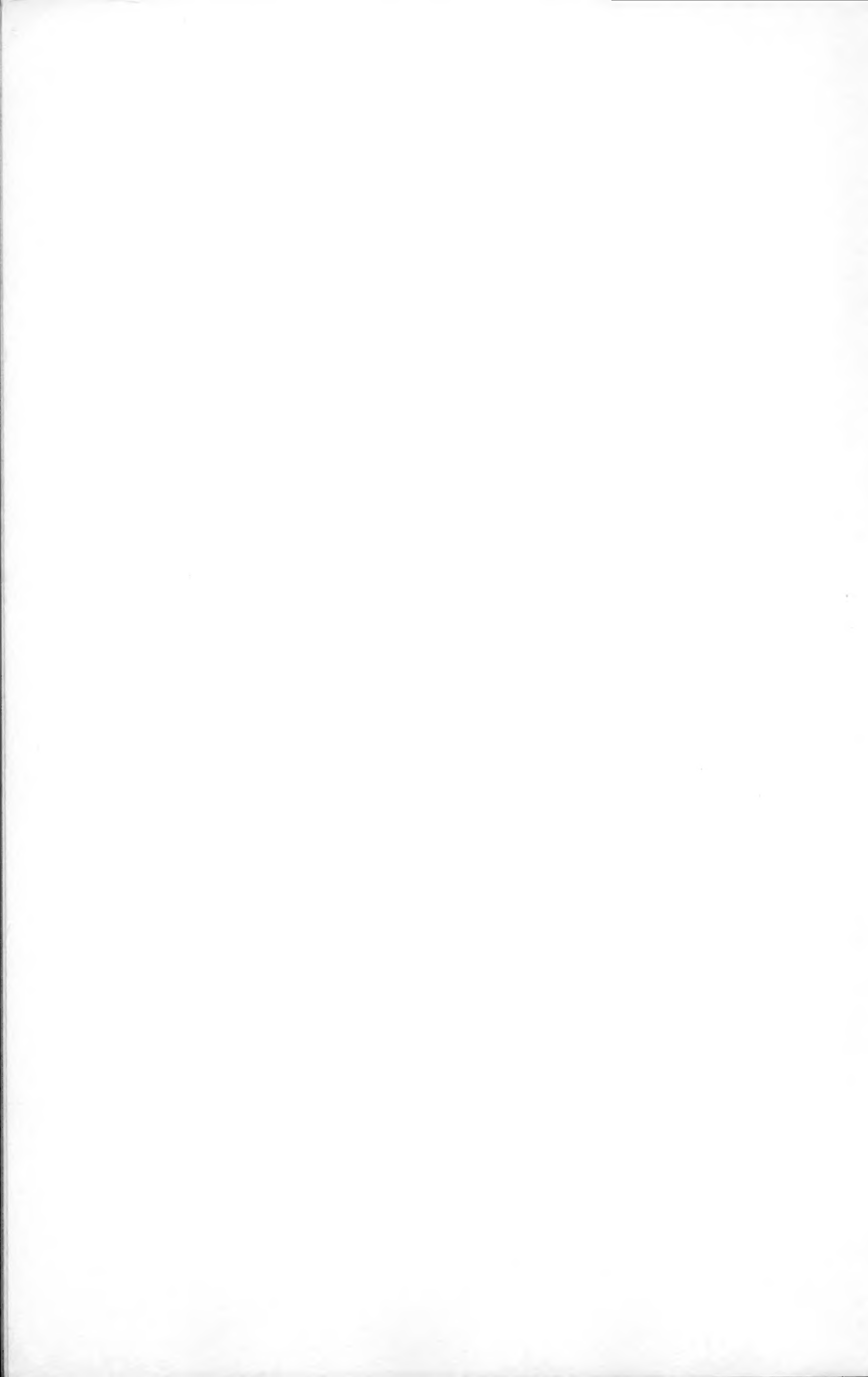
IROQUOIS POTTERY TYPES
A TECHNIQUE FOR THE STUDY OF IROQUOIS PREHISTORY

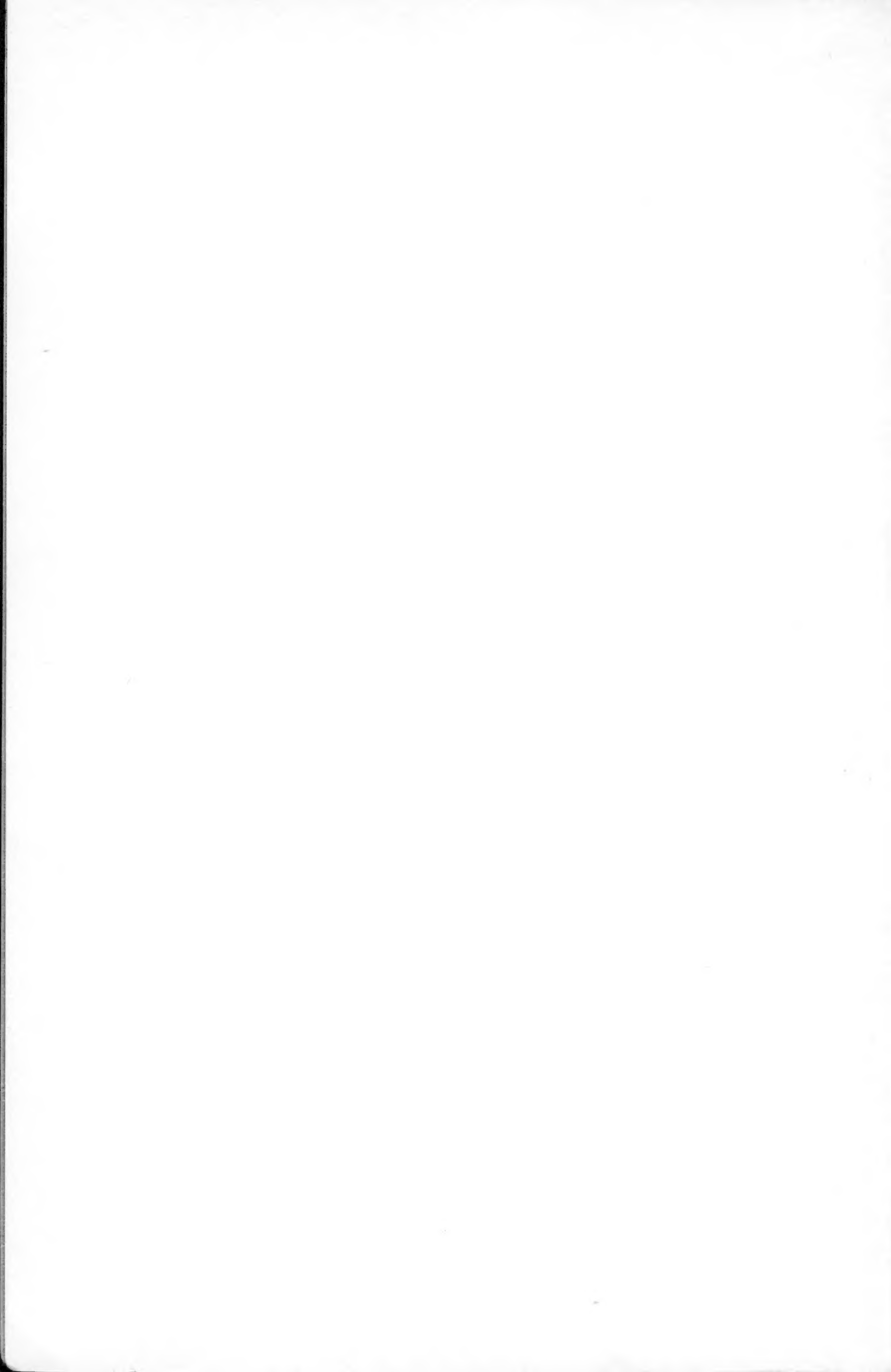
By
Richard S. MacNeish

1952

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IROQUOIS POTTERY TYPES

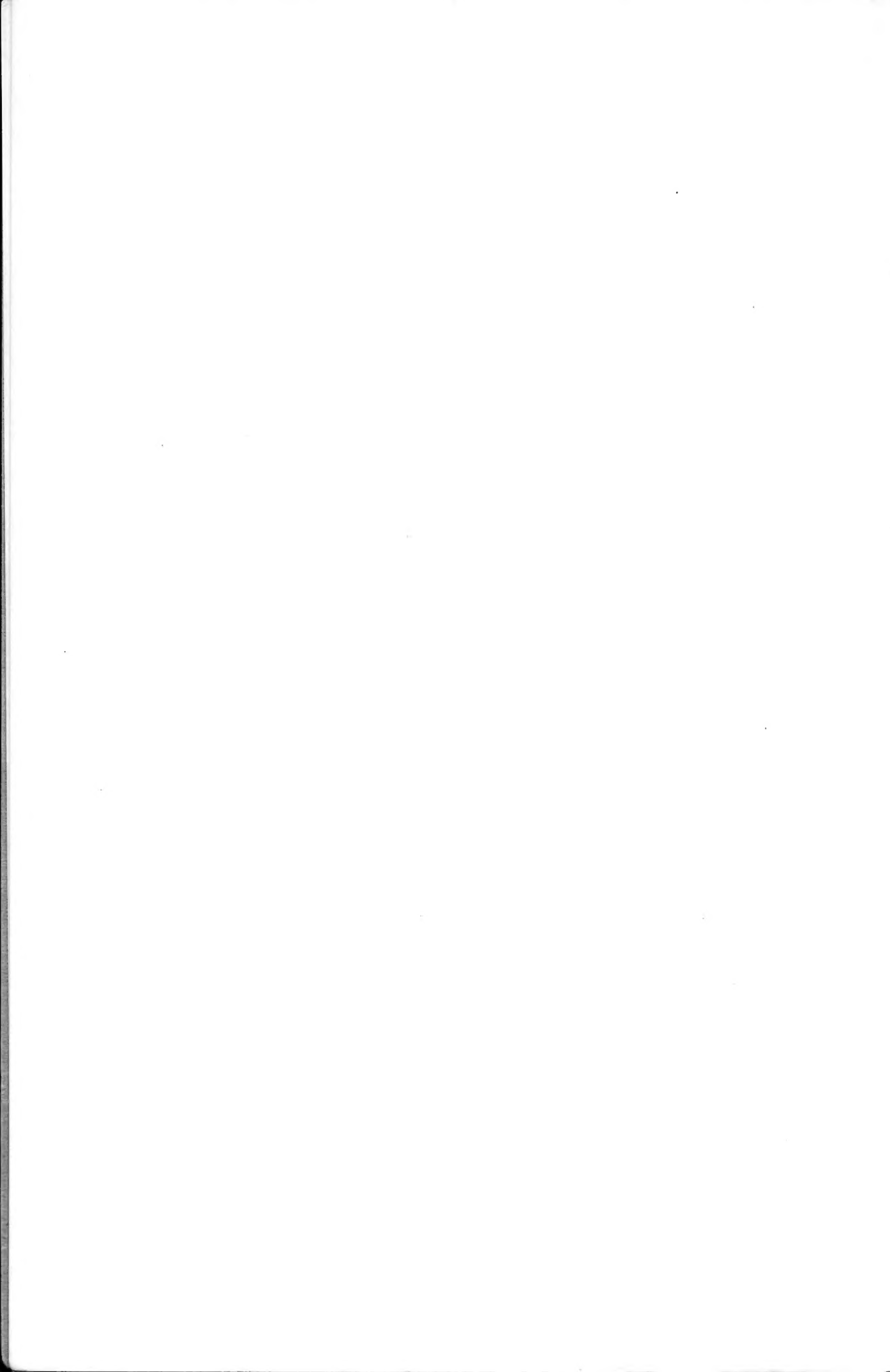
A TECHNIQUE FOR THE STUDY OF IROQUOIS PREHISTORY

By
Richard S. MacNeish

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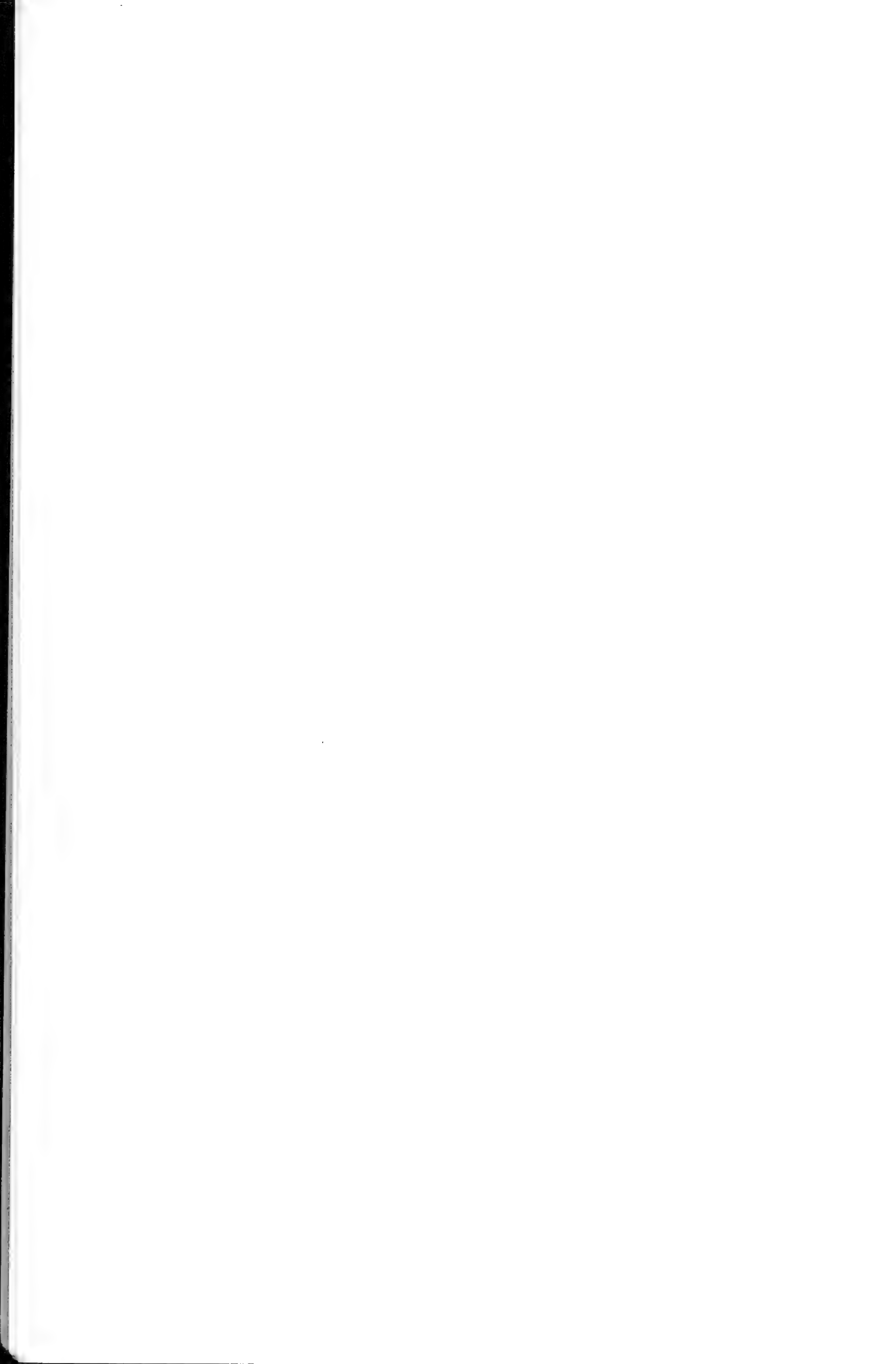
PREFACE

Iroquois prehistory and Iroquois archæology were among the first fields of American archæology to be studied by archæologists, historians, and anthropologists. By 1922, most anthropologists felt that the work of the earlier scientists had provided the correct outlines of Iroquois prehistory. For the next 25 years these earlier conclusions were generally accepted and no doubt still are in some parts. In the middle '20's Dr. W. A. Ritchie began his work on the pre-Iroquoian remains of the area. With continuance of his work, modern archæological methods were gradually introduced to the area. From his careful studies emerged a very adequate description of the archæological manifestation, the sequence of culture, and the movements of pre-Iroquoian peoples. However, Dr. Ritchie did not concern himself with Iroquois prehistory and accepted the conclusions of the earlier workers on Iroquois archæology, though he realized that their methods had not been of the best and that their conclusions were more subjective than objective.

It was Dr. Griffin who, through studies of the archæology of the eastern United States, recognized that the conclusions of the earlier workers were probably incorrect and that a re-study of Iroquois archæology using a direct historic approach plus Dr. Ritchie's contributions would give different conclusions. I was most fortunate in being a student of Dr. Griffin's in 1947, and when I became interested in this problem I was assigned the task of re-investigating Iroquois archæology. I, therefore, would like to acknowledge my indebtedness and express my gratitude to Dr. Griffin for this opportunity and for his guidance in studying Iroquois archæology. I would also like to thank Mr. Lilly of the Indiana Historical Society for providing the initial funds for undertaking this study.

From the beginning of the survey I co-operated with and became dependent on Dr. Ritchie, then of the Rochester Museum. He not only assisted me in understanding the pre-Iroquoian horizons but guided me through an analysis of pre-Iroquoian pottery, which resulted in a joint paper. Of more importance to the survey, he put me in touch with individuals and institutions having collections of Iroquois artifacts. Finally, as my survey began to provide sufficient data for interpretation, he discussed my interpretations with me. Any expression of gratitude to Dr. Ritchie would be most inadequate, and the least I can say is that this study, and any benefits to archæology it might have, would not have been possible without him. I should also like to thank Mr. Gordon Wright, Dr. Ritchie's assistant, and Mr. Thomas, Director of the Rochester Museum, as well as many other members of the staff of that museum for making my studies both pleasant and profitable.

I should also like to express my thanks to many amateur archæologists and private institutions for providing me with materials in this study. I hope I have adequately thanked them in the footnotes (for it is their data which are the basis for this study), as it is impracticable to thank them individually in this brief preface.



IROQUOIS POTTERY TYPES

A TECHNIQUE FOR THE STUDY OF IROQUOIS PREHISTORY

CHAPTER I

INTRODUCTION

THE PROBLEM

That the Iroquois, including the Huron, Neutral, and Erie, as well as the members of the League, played an important role in the early history of both Canada and the northeastern United States is well known. The prehistoric origin, movements, and development of their culture, however, are not so well understood. This problem has been a challenge to scientists in many fields for more than a century. Ethnological studies of the living Iroquois on the various reserves in Canada and reservations in the United States, studies of the documents of the early explorers of northeastern North America, physical anthropological studies of the living Iroquois and of skeletal remains from archæological sites (such as that done by Knowles for the National Museum of Canada), linguistic researches, archæological investigations, and various other techniques have all been oriented towards the solution of this problem. This paper describes the application of an analytical archæological technique, new to this area, to the problem. The technique may be described as the Direct Historic Approach through pottery types and seriations: i.e., the tracing back of a tribal group's history by the analysis of pottery types from historic documented sites and connecting them with prehistoric sites, chronologically ordered, on the basis of seriated or overlapping pottery types and ceramic trends.

The present study of Iroquois prehistory proceeded along the following lines. In 1947, under the auspices of the Indiana Historical Society and the Museum of Anthropology of the University of Michigan, an analytical survey of Iroquois archæological material was undertaken. The original purpose of the study was to determine the distinguishing diagnostic features of the material culture of each Iroquois tribal group so that the Iroquois-like material culture of the Delaware could be better understood. By the end of the summer this purpose was fulfilled, and the grant of the initial sponsors was depleted.

The data gathered at this time and further materials collected in the autumn of 1947, 1948, and 1949 were then applied to a much larger and somewhat different problem: the prehistory of the Iroquois. More specifically, it was hoped that the application of the direct historic approach would make it possible to determine the tribal material culture units of the Iroquois at historic times and by comparison, seriation, and the establishment of trends, to connect prehistoric sites with the historic ones in their correct chronological order. In turn, it was hoped this would shed light on the movements of the tribal groups, the tribal differentiations, and the changes that had taken place in their culture, and that it would lead eventually to an understanding of the cultural dynamics of the Iroquois. This paper is but a part of the larger work and is mainly concerned with a technique for arranging archæological specimens in their correct tribal and sequential order by seriation of pottery types and the study of ceramic trends. Primarily, this study gives a tentative framework for the chronological sequence of Iroquois prehistory.¹

¹ The validity of this framework is confirmed in many cases by similar seriations of pipe and projectile point types, and comparisons of the total trait complex, which will be presented in a forthcoming volume on Iroquois Prehistory.

THE METHOD

First, the literature and other data on Iroquois archæology were studied. From this study it was possible to determine the locations of some archæological material that had been previously exhumed by professional archæologists on Iroquois sites. Dr. W. A. Ritchie, with his tremendous knowledge of the Northeast, supplied me with long and important lists of public and private collections of Iroquois materials. With this knowledge at hand, I got in touch with the people having these Iroquois specimens and arranged for an opportunity to study them. Once permission was obtained, I recorded, studied, and photographed the materials and noted their original site locations. From this examination it became immediately apparent that it was pottery that showed the greatest variation in decoration and shape; it was numerically the most abundant of any type of artifact to be found on Iroquois sites and therefore the most suitable for comparative studies. It became apparent also that most Iroquois sites are not stratified or of long occupation and that a sequence of culture could not be readily established simply by the study of the levels or strata of a site. This led directly to placing the emphasis of my study on the seriation of pottery types (starting with specimens from historic documented sites) for establishing chronological and spatial relationships.

It is necessary to review in terms of Iroquois pottery types the method of recording ceramics from each site and of comparison preliminary to the establishing of types, and the definition of a pottery type that Dr. W. A. Ritchie and the author previously described in an article entitled "Pre-Iroquoian Pottery of New York State," published in *American Antiquity*, Vol. 15, p. 97, in October, 1949. In this article the authors defined an archæological type as a class or group of objects having interrelated similar features or modes that have temporal or spatial (tribal) significance.¹

The method of recording the pottery, the comparison preliminary to establishing types, and the concepts concerning archæological typology expressed by Dr. Ritchie and the author in the above-mentioned article are equally applicable to the present study, and I shall quote it and, when necessary, adapt it to the discussion in the following pages.

"We conceive of the typing of archæological materials as an attempt to recapture the stylistic concepts in the minds of the original makers and to group these concepts in such a way as to show their trends in time and space. We believe that, at least to a certain degree, our types reflect æsthetic and utilitarian standards of value which operated as cultural compulsives on the minds of the artisans and, therefore, they possess some genuine measure of intrinsic validity.²

"The significance of an established type is in turn obtained through the comparison by components, or levels in components, of the characteristic features or correlated group of features which differentiate the type. Conforming in general to the agreement

¹ This definition of a type conforms closely to the definition of an archæological type that Mr. A. Krieger uses and discusses in his papers: "The Typological Concept," *American Antiquity*, Vol. IX, 1944, pp. 271-288; and "The George C. Davis Site, Cherokee County, Texas," *Memoirs No. 5 of the Society for American Archaeology*, *American Antiquity*, Vol. XIV, No. 4, Pt. 2, April, 1949, Menasha, Wisc. pp. 71-74.

² Both Rouse (1939, p. 15) and Taylor (1948, p. 130) express an essentially similar point of view.

reached at the Conference on Southeastern Pottery Typology held at Ann Arbor, Michigan, in 1938,¹ we have observed in the delineation of our pottery types the traits of paste, surface finish, decorative design and technique, form, and vessel appendages, but we have actually utilized only the decorative design and technique, rim shape, and pot form, as the most diagnostic features of the pottery of this area. Later a correlation of these features with surface treatment and paste was attempted, but because the bulk of the material consisted of rim sherds without clue to surface treatment,"²

the former correlation in most cases was impossible. However, it was possible to correlate the paste with various features of the rim, though significant variations in the paste were very rare.

"Another difficulty lay in the considerable range of variation in rim shape and ornamentation. Such obstacles are inherent in the classification of any correlated series of variable features, and our type descriptions attempt to meet the problem by expressing the range of differences for each ceramic feature, as well as stating the diagnostic elements of the type. We have also included statements of the known temporal and spatial (and tribal) ranges and speculations concerning the probable genetic and cultural affinities of the described types.

"It will be necessary at this point briefly to describe the technique used to establish the ceramic taxonomy resulting from this study.












ORR LAKE SIMCOE CO., ONT HISTORIC HURON RIMS R. ONT. MUS. COLL. 346 SHERDS DESIGN AND TECHNIQUE										ETC.
 INCISING		17	5	1		1	6			
 INCISING		65	21	14	5	9	2	3	2	
 INCISING		4					1			
ETC.										

Figure 1. Part of a Recording Chart.

¹Report of the Conference on Southeastern Pottery Typology, held at the Ceramic Repository for the Eastern United States, Museum of Anthropology, University of Michigan, Ann Arbor, Michigan, May 16-17, 1938 (mimeographed); cf. Ford and Quimby, 1945, pp. 52-67.

²William A. Ritchie and Richard S. MacNeish: "Pre-Iroquoian Pottery in New York State," *American Antiquity*, Vol. 15, No. 2, 1949, p. 98.

The rim sherds from each site were separately recorded by drawings on a large correlation chart, on which the rim shapes were shown as the abscissa while the designs and techniques of decoration were depicted as the ordinate, the frequencies of each combination of the three variables being indicated as the tabular value.¹ (See Figure 1.) These charts I have called the Recording Charts."

Next, the Recording Charts for documented sites of known tribal affiliation, or from historic sites of which the tribal assignment could be inferred with a fair degree of accuracy, were combined into a second chart (Figure 2). In this chart the abscissae consisted of the correlated design, technique of decoration, and rim shape; the ordinates listed the components of known or probable tribal groups; while the tabular value was the frequency, expressed as a percentage of the total of the correlated ceramic features for each historic site. From these comparisons the correlated ceramic features diagnostic of a series of sites, or a site of a single tribe, could easily be recognized (See feature inside dotted line in Figure 2), as well as the correlated ceramic features appearing in two or more sites of two or more tribal groups (See features encircled by dashes in Figure 2). This checking revealed the spatial and tribal significance of groups of sherds having interrelated similar features.




















TECHNIQUE OF DECORATION			INCISING															
DESIGN																		
CROSS-SECTION OF RIM SHERDS									ETC.						ETC.			ETC.
SITE SAMPLE	TRIBE	DATE																
ORR LAKE ONT 346	HURON PROBABLY ST.MICHAELS	1649	4	1	17	5	1	1	6	ETC.	65	14	3		ETC.			ETC.
WARMINSTER ONT 291	HURON MAYBE CAHIQUE	1610	4	2	15	4	3	2	1	ETC.	34	4	2		ETC.			ETC.
BUFFUM ST. BUFFALO, N. Y. 92	NEUTRAL	1639								ETC.			9	28	11	ETC.		ETC
WAGONER HOLLOW MONT CO. N. Y. 342	MOHAWK									ETC.						ETC.	22 9	ETC.

Figure 2. A comparison of ceramic features of various historic tribal components indicating diagnostic tribal characteristics.

With the conclusions from the first comparisons as a starting point, the complex of correlated features found on the historic site of a certain tribe was compared with the Recording Charts of the prehistoric sites. This could usually be done by inspection, though in rare cases a chart similar to Figure 2 with both historic and prehistoric sites had to be made.

¹Ibid.

Those Recording Charts of prehistoric sites with three or more (usually more) groups of correlated features distinctive of a particular tribe were then selected to make up a third chart. It was assumed that prehistoric sites with ceramic complexes very similar to, or the same as, those of sites of a particular tribe were genetically related to that tribe. In other words, the third charts were comparisons of ceramic features of historic and prehistoric sites belonging to the same tribe.

Again the abscissae consisted of the correlated designs, technique of designs, and rim shape, while the ordinates listed the historic and prehistoric components assumed to be of the same tribe. The tabular values were the frequency, expressed as a percentage, of the total correlated from each site having certain characteristics diagnostic of certain tribal groups (Figure 3).



























TECHNIQUE		INCISING																							
DESIGN								ETC.																	
RIM																				ETC.					
SITE SAMPLE																									
ORR LAKE 346	4	1	19	5	1	1	6	3	1	2	65	14	10	16	19	3	2			ETC.					
WARMINSTER 293	4	2	15	4	3	2	1	2			34	4	3	7	20	2	2	2		ETC.					
BLACK CK. 378											12	1	1	10	6	3	14	3	1	9	10	2	7	ETC.	
SEED 355	1		9	4	1	1	8	1			14	2	1	4	7	2	2	1	2	1	2	7	3	ETC.	

Figure 3. Compared ceramic features from historic and prehistoric components of a single tribe indicating significant groupings.

"It now became evident that certain combinations of rim form, design, and technique or ornamentation were distinctive of certain sites. This would seem to justify their designation as types. (See column encircled by solid line.) Also it was shown that certain similar combinations had the same relative value in the different sites, which fact caused them to be lumped into a single category. (See columns encircled by dotted line.)"¹

Certain combinations that appeared rarely and were very similar to types of the above category (often differing only in minor rim features) would be lumped as either variants of the types or as the basis for future types when more data are available. Other similar combinations had a very different relative value in the different sites, and these became types or sub-types (in cross-hatched lines).

¹Ibid.

"It will also be noticed that some combinations have similar trends in the site by site comparisons, while differing radically in compared features one from the other. On the basis of such discrepancies these are also considered discrete types. (See columns enclosed by hatchured lines.)

"Now separate description sheets were made for each ceramic type, showing the full range of the elements compared, and indicating site distributions and frequencies. A random sample series of the actual potsherds described in each type sheet was then examined in terms of paste composition, surface finish, and the presence or absence of secondary features, such as lugs, castellations, etc. If any of these secondary characteristics seemed to show comparative significance, a further subdivision of type was made. The final step in the analysis consisted in the creation of a nomenclature according to accepted canons, utilizing provenience and major descriptive features."¹

Now that the types had been established for each tribal group, the process of seriation could begin. The seriation involved the assumption that the prehistoric site most similar to the earliest historic site was ancestral to it, and that a third prehistoric site, similar to the prehistoric one already linked to the historic one, was its cultural antecedent, and so on. Thus, by a comparison of the types or percentiles of types from sites that I assumed to belong to a particular tribe, the sites could be aligned in their correct chronological order on the basis of overlapping pottery types or trends of types. This final set of comparisons not only gave the probable chronological order but also allowed us to see the trends of the various types. (See Figure 4 or any of the other charts accompanying the pottery series.)

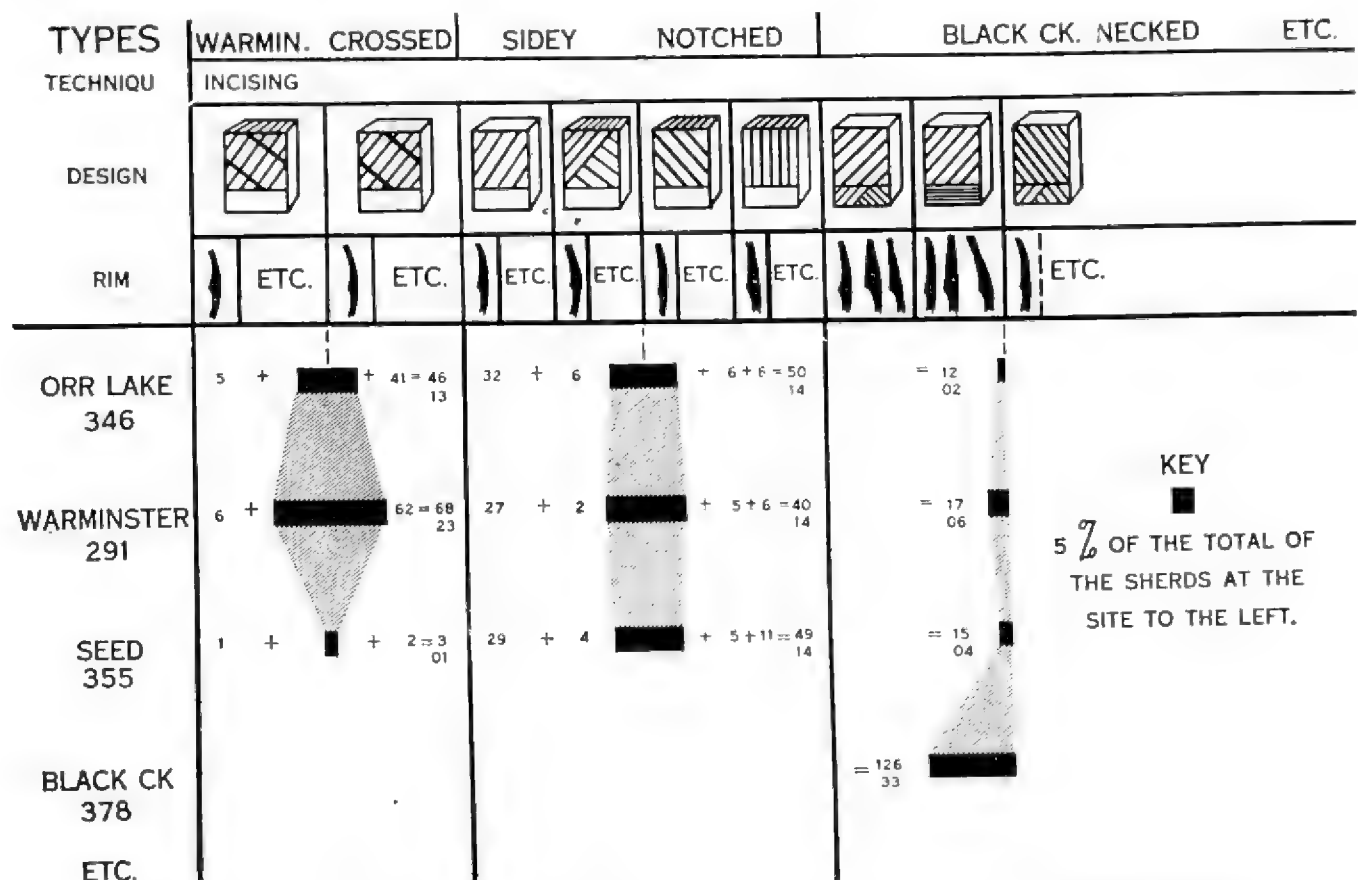


Figure 4. The trends and seriation of pottery types of a single tribe.

¹Ibid.

The trends also allowed one to guess or predict what types would be found on sites earlier than our series (i.e., the missing links) by the extension of the pottery trends beyond the earliest site in our series. Merging trends and overlapping pottery types extending back from two developmental tribal series also made it possible to discern the differentiation of tribal groups or series.

In each of our series there were certain sherds that occurred spasmodically (representing no trend in our series) and were usually a small minority in that series but which did represent a trend and appeared in large numbers in another series. These are called aberrant sherds (others have called them *trade sherds*); they may have been parts of vessels obtained in commerce (amicable or otherwise), pieces of pots made by captive women, or copies of foreign types made by the local potters. Perhaps future microscopic studies of these aberrant sherds may enable us to explain them more fully. At present they are considered as chronological connections between sites of the various tribal series. These and the more general trends are the basis of Figure 23 on page 87.

In describing the pottery of the Iroquois I shall treat it tribe by tribe, giving a brief description of the materials used, their limitations, and an interpretation of the seriation, and then describe the distribution of the pottery types of each tribal group in time and space. Also, a brief statement will be made about the aberrant sherds of each group. Pottery types will be described following the rules laid down at the Southeastern Pottery Conference.¹ At the end of the descriptions of the pottery types, I shall present a large chart showing the sequence of sites of all the Iroquois tribes, based upon the previous seriation study and aberrant (trade) sherds. I shall also attempt to interpret this chronology in terms of the earlier culture sequences and ceramic trends.

THE IROQUOIS POTTERY SERIES

Perhaps the best introduction to a general description of Iroquois pottery is one written by an acute observer who actually saw the Iroquois making pottery. Sagard, in 1632, had the following to say of the manufacture of Huron pottery:

"The women make them, taking suitable earth, which they clean and knead very well, mixing in a little sandstone, then the mass being reduced to a ball, they make a hole in it with the fist, which they enlarge continuously while beating it inside with a little wooden paddle, as much and as long as is necessary to complete them" and which "they bake on their hearth; these are very good and never break in the fire, even though there is water in them . . ."²

To put Sagard's lucid "on the spot" observation into modern archaeological jargon, Iroquois pottery has grit temper, good paste consistency (when compared with other pottery of the Northeast), the paddle and anvil method of manufacture, an oxidizing process at a low temperature for firing, and a 2 to 4 hardness range.

Surface finish on historic pottery is generally smooth. Decoration is usually by incising on the collar, though it sometimes appears on the lip,

¹ Op. cit. note 1, p. 3.

² Gabriel Sagard-Théodat: *Le Grand Voyage du Pays des Hurons, situé en l'Amerique vers la Mer douce es derniers confins de la nouvelle France dite Canada*. Paris: Denys Moreau, 1632.

rim interior, neck, and shoulders. The incisions are usually parallel to one another and form various geometric designs. In form the vessels have bodies "entirely round like a ball,"¹ necks slightly constricted, and usually collars on the rim. These collars seem to have been manufactured by three different methods: on some pots the collars appear to have been modelled from the rim; others appear to be appliqués of clay moulded into the rim; some of the collars and part of the neck appear to have been made separately and later attached to the round bodies and lower part of the necks. Many necks show evidence of this welding of collar and body, breakage usually occurring in the neck area. My own personal experiments in making Iroquois pots show this final method to be the easiest and most satisfactory way of making collars, particularly when one is making the body by the paddle and anvil method. On the lips there are usually castellations. Appendages such as handles or effigies are extremely rare.

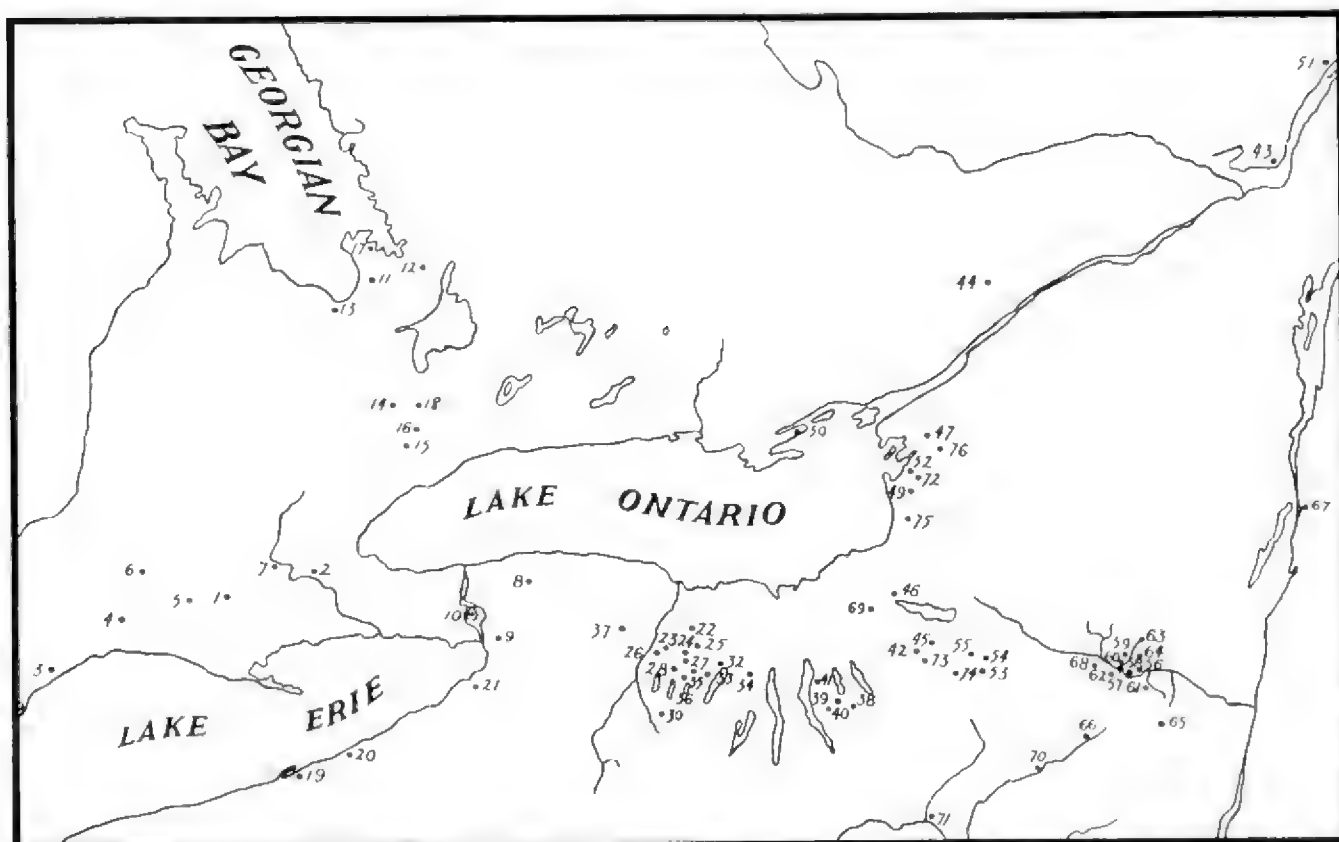


Figure 5.—Location of sites referred to in the text.

- | | | | |
|------------------|--------------------|---------------------|-----------------|
| 1. Uren | 15. Woodbridge | 29. Long Point | 43. Hochelaga |
| 2. Middleport | 16. Black Creek | 30. Dansville Flats | 44. Roebuck |
| 3. Clearville | 17. Train | 31. Portageville | 45. Indian Hill |
| 4. Southwold | 18. Aurora | 32. Canandaigua | 46. Brewerton |
| 5. Pound | 19. 28th St. | 33. Hummel | 47. Durfee |
| 6. Lawson | 20. Ripley | 34. Woodley | 48. Swarthout |
| 7. Seally | 21. Goodyear | 35. Belcher | 49. Caen |
| 8. Kienuka | 22. Boughton Hill | 36. Richmond Hill | 50. Waupoose |
| 9. Buffum St. | 23. Dann | 37. Leroy | 51. Lanorie |
| 10. Grand Island | 24. Warren | 38. Locke | 52. Ivey |
| 11. Orr Lake | 25. Cornish | 39. Myer's Sta. | 53. Munnsville |
| 12. Warminster | 26. Dutch Hollow | 40. Genoa Ft. | 54. Thurston |
| 13. Sidey-Mackay | 27. Factory Hollow | 41. Great Gully | 55. Diable |
| 14. Seed | 28. Adams | 42. Lawrence Farm | 56. Caughnawaga |

¹ Ibid.

57. Rice Woods	62. Otstungo	67. Chipman's Point	72. Calkins Farm
58. Martin	63. Garoga	68. Oak Hill	73. Atwell Fort
59. Wagoner Hollow	64. Cayadutta	69. Baldwinsville	74. Nichols Pond
60. Smith	65. Chance	70. Bainbridge	75. Sandy Creek
61. Auriesville	66. Goodyear Lake	71. Castle Creek	76. Putman

CHAPTER II

NEUTRAL-WENRO POTTERY TYPES

GENERAL

In studying the Neutral, we are most fortunate in having large series of sherds from a number of prehistoric sites excavated by competent archaeologists: the Uren,¹ Middleport,² Southwold Earthworks,³ and Lawson site⁴ were excavated by W. J. Wintemberg of the National Museum of Canada, and the Pound Site⁵ was excavated by Philleo Nash for the University of Toronto. Smaller series from numerous similar sites are available in various collections in Ontario but, because they were so few, have not been included in this study. Generally speaking, these materials give us the best sequence of pottery we have from any Iroquois tribal group. Large, carefully excavated samples of sherds from sites that can be connected with the earliest site in this sequence are not available at present. However, Mr. Thomas E. Lee made surveys in Ontario for the National Museum of Canada in 1949 and 1950, concentrating on just this problem. The results of his surveys give every indication that this gap in our collections will soon be filled, as he found a series of sites that appears to represent a development from a new Ontario form of Owasco into the Uren type. In spite of the fact that all the sites mentioned above have been glibly identified as prehistoric or proto-Neutral, only one historic site that can be identified with any degree of accuracy has produced an adequate sample of sherds. This is the Buffum Street Site that Dr. Bingham of the Buffalo Historical Society excavated in the eastern outskirts of the present city of Buffalo, N.Y.⁶ This lack of materials from historic Neutral sites is a definite gap in what otherwise is (or soon will be) a very fine cultural sequence.

The geographical location of the Buffum Street site coincides rather closely with the location of the Neutral village called Ondieronii on Du Creux's map of 1660, or one of the four Neutral villages east of the Niagara River on De Lisle's map, based on Jesuit records of 1639-41. Thus I believe we may tentatively identify this site as being a Neutral village of around 1640, maybe Ondieronii. The identification of this site is not on a firm basis, but that may be said of any historic Neutral village, for visits to the Neutral by early explorers and the clergy were few and the original documents and maps of these visitors are not available. Further, the Neutral were exterminated by the tribes of the League at an early date (*circa* 1650). Other sites in Neutral territory have produced historic goods

¹ W. J. Wintemberg: *The Uren Village Site, Oxford County, Ontario*. National Museum of Canada, Bull. 51, Ottawa, 1928.

² W. J. Wintemberg: *The Middleport Prehistoric Village Site*. National Museum of Canada, Anthropological Series, No. 27, Bull. 109, Ottawa, 1948.

³ W. J. Wintemberg and Wilfrid Jury excavated this site for the National Museum of Canada, and most of the materials from their expedition are in the National Museum. I was most fortunate in being able to analyse these materials.

⁴ W. J. Wintemberg: *Lawson Prehistoric Village Site, Middlesex County, Ontario*. National Museum of Canada, Anthropological Series No. 25, Bull. 94, Ottawa, 1939.

⁵ Dr. Philleo Nash excavated this site near Tillsonburg, Ontario, for the University of Toronto. The specimens collected are now stored in the Royal Ontario Museum at Toronto. I should like to thank T. F. McIlwraith for permission to study them, as well as Mr. Emerson who worked with Dr. Nash at the site and was of great assistance in the analysis of the pottery.

⁶ I should like to thank Dr. Bingham for allowing me to examine these materials.

in association with aboriginal materials, but the samples of sherds from them are, unfortunately, small. An ossuary with historic goods at the Kienuka Site near Lockport, N.Y., has been excavated by Mr. McCarthy, Mr. Muller, and Mr. Peuchman, of Lockport. On Grand Island in the Niagara River, Dr. Houghton excavated a burial ground for the Buffalo Historical Society. In the graves, aboriginal artifacts (including two pots of Lawson Incised and Lawson Opposed types) were in association with historic trade goods. Also, from the Scally Site east of Brantford, Ont., historic goods have been found with aboriginal goods (some of which resemble those from the Lawson Site). Unfortunately, this site has been looted by untrained collectors for a long time, and an adequate sample of the materials is no longer available.

All the pottery types found in the historic Neutral Buffum Street Site can be duplicated in the prehistoric Lawson Site. These types include Lawson Opposed, Lawson Incised, Niagara Collared, Ripley Plain, and Ontario Horizontal. The Lawson Site and the Southwold Earthworks have almost the same types, but the latter, on the basis of trends and the occurrence of sherds of the Middleport Oblique type, is relegated to an earlier time. Pound and Middleport precede Southwold on the basis of seriation of types and because of great shifts in popularity of types in the sites previously mentioned. Uren precedes the Middleport Site, for its pottery shows a complete absence of types popular in historic times, a huge increase in Ontario Horizontal (a minority ware in the later sites), as well as the occurrence of a number of types with definite Owascoid affinities, such as Uren Noded, Ontario Oblique, and Uren Corded, plus individual types such as Uren Dentate and Iroquois Linear. Generally speaking, the seriation aligns and connects a series of sites whose ceramic assemblage shifts almost completely from an Owascoid complex to a specialized Iroquois assemblage of pottery types.¹ As will be pointed out, this unexpected trend is common to all our Iroquois tribal sequences, and this is no doubt one of the reasons that the problem of the origin of the Iroquois has remained so inscrutable (*See Figures 6 and 7*).

A study of sites in terms of their geographical and temporal position reveals the following population shifts of the Neutral. The earliest Neutral (also Erie and possibly Huron) occupied the southwest and central part of the lower peninsula area of Ontario and had a Uren type of culture. Gradually, at the time that these people had a Pound and Middleport type of culture, the Neutral (and Erie) population expanded eastward, crossed the Niagara River, and entered western New York along the Lake Ontario shore, east of Rochester. This territory, from Windsor, Ont., to Rochester, N.Y., along the northern Lake Erie shore and southern Lake Ontario shore, was occupied by the Neutral until 1639 when the Seneca began conquering the groups in western New York. Shortly after 1650 the remainder of the Neutral in Ontario were dispersed and decimated by the invading members of the League of the Iroquois (*See Figure 22*).

In conclusion, let me say that the Neutral area is unique in that seriation of pottery types is confirmed by stratigraphy, even though the samples in the stratigraphy are unfortunately small. At the Clearville Site, Middlesex County, Ont., Wilfrid Jury has reported a stratified site. The top

¹ Seriations of pipe types and projectile points align these Neutral sites in the same order and show the same general trend.

Types Sites	Uren			Uren Noded		Ontario Oblique		Middleport		Ontario Horizontal		Niagara Collared		Lawson Incised		Pound Necked	
	Corded	Dentate	Linear					Oblique	Cross	Blank		Ripley Plain					Opposed
Buffum St 93																	
Lawson 560																	
Southwold 515																	
Pound 676																	
Middleport 308																	
Uren 1078																	

Figure 6. The seriation of Neutral-Wenro pottery types in terms of numbers of actual specimens and percentiles.

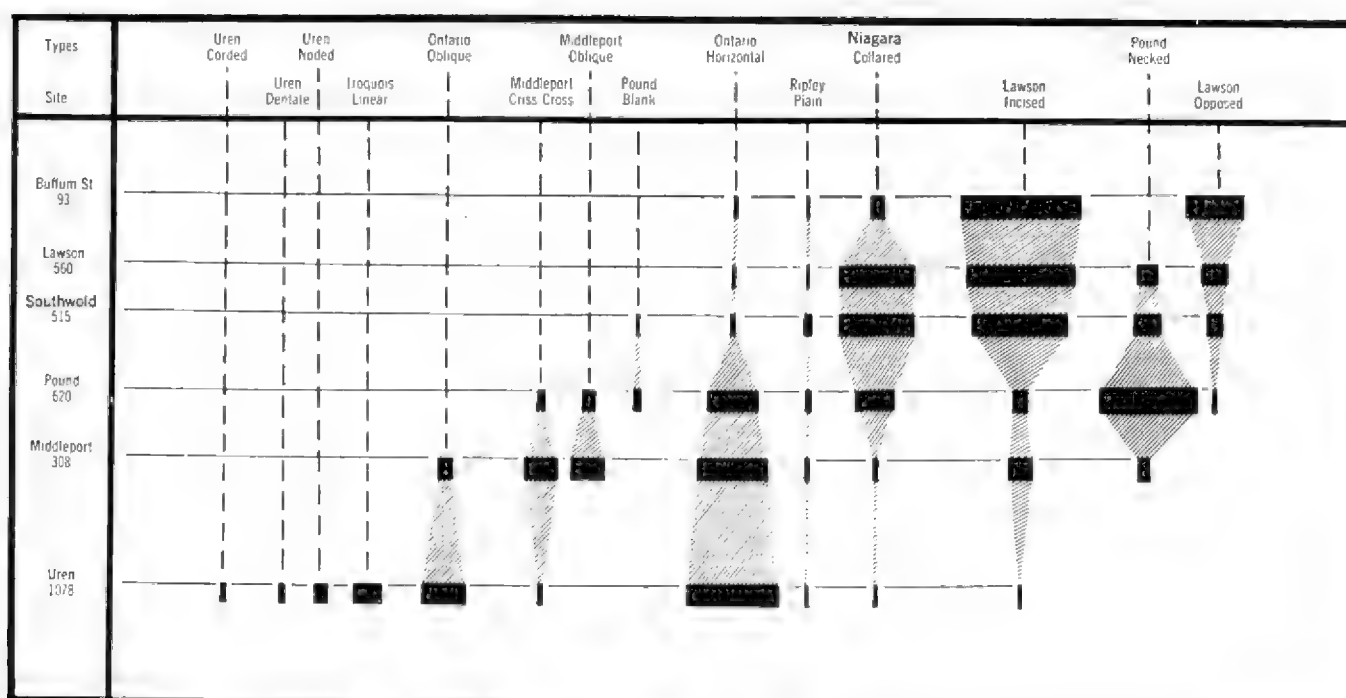


Figure 7. A graph of the seriations of Neutral-Wenro pottery types.

stratum has Lawson-like material; 6 inches below it, is a dark layer containing a Pound-like culture; and 2 feet below that stratum is an occupation level with Uren-like material.¹ The sherds found in his excavations are too few to include in our study. Also, at the Middleport site, Wintenberg found Owascoid pottery types under Iroquoian material.²

Lawson Opposed (Plate I, figures 1 to 5)

Paste:

Temper: The temper is of grit in small amounts.

Texture: The sherds are flaky, and cross-sections show them to be slightly laminated.

Colour: Brown to mousey grey. Interior surfaces are noticeably darker than exteriors; in cross-section the sherds show the inner section to be almost black, while the part near the surfaces is very much lighter in colour.

Hardness: 2-5.

Surface Finish: The type appears to have a smooth surface finish. A slight surface variation in the type is that the Neutral sherds are smooth, almost polished, but the Huron and Erie sherds of this type are less so.

Decoration: The decoration consists of opposed isosceles triangles or other areas that are filled with parallel oblique lines. The parallel lines of one triangle or area slope in an opposite direction to those of the other (Figure 25, No. 28, or Plate I, figure 1). A few of the rim sherds have notches at the base of the collar (Figure 25, No. 30, or Plate I, figures 4 and 5). Somewhat less common are decorations composed of areas of parallel oblique lines opposed by areas filled with vertical parallel lines (Figure 25, No. 37, or Plate I, figures 2 and 4). Erie sherds have the incisions rather

¹Wilfrid Jury: "The Clearville Prehistoric Village Site in Oxford Township, Kent County, Ontario." Bulletin of the Museum, University of Western Ontario, No. 2, London, Ontario, 1941.

²Op. cit., note 2, p. 10.

sloppily done, while those of the Neutral appear to have been made with a dull-pointed toothed object. There may be oblique gashes at the shoulder in this type.

Shape: The vessels are globular, necks constricted, and a short collar ($\frac{1}{2}$ inch to $1\frac{1}{2}$ inches in height) occurs. In cross-section the collars have a slight interior channel, while the exteriors are straight or concave and blend gradually into the necks. The most frequent rim shape is 104 of Figure 24, but all forms from 90 to 110 occur. Usually there is one castellation, which is pointed. On Erie pots of this type a single vertical appliquéd ridge may appear under the castellation on the collars. Often the vessels are "pitcher shaped," i.e. the collar part with the castellation protruding from the neck.

Diagnostic Features of the Type: Opposed incised triangles or areas on a short, poorly-defined, channelled collar.

Spatial and Temporal Range: This is a historic and very late pre-historic type and is found in Ontario just north of Lake Erie, in western New York along Lake Ontario, and along the southeast shore of Lake Erie.

Relationship: This type is derived from Lawson Incised and closely related to the Huron types, Huron Incised and Sidey Notched; and to the Onondaga type, Roebuck Low Collar.

Lawson Incised (Plate I, figures 6 to 9)

Paste: The same as in Lawson Triangular, though the paste of the sherds in the later sites is slightly more compact than those in the earlier sites.

Surface Finish: At historic times it is smooth, but in earlier horizons it may be either smooth, ribbed, check stamped, or cord marked.

Decoration: The decoration is on the collars. It is of incised parallel lines usually oblique to the right, or vertical (See Figure 5, No. 1, or Plate I, figure 8). Less commonly there are oblique lines to the left (Plate I, figures 6 and 7, or Figure 25, No. 10). Bases of collars are rarely notched.

Shape: Same as Lawson Triangular. Rim shapes 104, 108, and 106 of Figure 24 are most common, though any of the shapes from 93 to 110 and from 29 to 32 may occur.

Diagnostic Features: Oblique or vertical, parallel incised lines on short, poorly-defined, channelled collars.

Temporal Range: This type appears throughout Erie and Neutral history, being dominant in historic and late prehistoric sites.

Spatial Range: Same as Lawson Triangular.

Relationship: The type is related to Roebuck Low Collar and Huron Incised. It evidently springs from the Owascoid types, such as Owaseo Oblique Corded, Ontario Oblique, Uren Corded, or Uren Dentate.

Pound Necked (Plate II, figures 1 to 5)

Paste and Surface Finish: Same as Lawson Triangular.

Decoration: Incised decorations are on both the neck and the collar.

On the neck there are usually a series of parallel lines with or without notches under them (Figure 27, No. 237 or 238). On the collars are oblique and vertical parallel lines, as well as parallel lines made into opposed isosceles triangles or opposed bands. Rarely the base of the collar is notched.

Shape: Vessel shapes are the same as previously described, though there is a minor difference in the rims. Generally speaking, the exterior part of the base of the collar is less sharply differentiated from the neck, and the collar increases in thickness toward the lip (Rim shapes 108 and 106 of Figure 24), but the collar common to the previous type is still present (Rim shape 104 of Figure 24).

Diagnostic Features: The most distinctive features of the type are the horizontal incisions encircling the neck, coupled with oblique or vertical incisions on short, poorly-defined, channelled collars.

Temporal Range: The type starts during Middlesex times and is absent in historic times, reaching its greatest frequency at the time of the occupation of the Pound Site.

Geographical Range: The type is found mainly in the Ontario Peninsula area and western New York near Lake Ontario, though it does occur on many prehistoric Onondaga-Oneida sites.

Relationship: The type is similar to the Huron Seeds Necked and the Onondaga-Oneida Roebuck Low Collar types. It probably arose from the combination of stylistic concepts involved in Lawson Incised and Ontario Horizontal or directly from earlier Owascoid sites, such as the Krieger and Goessens sites.

Pound Blank (Plate II, figures 6 to 9)

Paste: Same as previously described.

Surface Finish: The one whole pot of this type has a smooth surface.

Decoration: The decoration is on the collars and consists of stripes composed of 2 to 4 parallel incised lines. These stripes run obliquely across the collar, and they alternate their oblique directions (Figure 26, Nos. 131 and 132). These alternating oblique stripes of parallel lines separate wide-based, undecorated, isosceles triangles on the collars. Of course, the apexes of these undecorated triangles first point upward, then downward, etc. On most of the specimens the bases of the triangles are formed by a line of dots or gashes. Under castellations there is usually a vertical band of four parallel lines with two undecorated right-angled triangles on either side of the vertical band (See Figure 26, No. 124).

Shape: Bodies are globular, necks slightly constricted, and collars are short with well-defined interior channels (Figure 24, No. 104). The whole pot has four castellations.

Diagnostic Features: Alternating wide-based, undecorated isosceles triangles separated by four oblique lines on short channelled collars.

Temporal Significance: Confined mainly to the Pound Site horizon.

Geographical Range: Mainly in the Ontario Peninsula area.

Relationship: This type may well be derived from variants of Onondaga Triangular which have undecorated triangular areas on high collars. It may also be ancestral to Ripley Triangular. For Ripley Plain and Niagara Collared see the section on the Erie.

Ontario Horizontal (Plate III, figures 1 to 4)

Paste and Surface Finish: Same as previously described.

Decoration: Decoration is on the collar and consists of from two to five parallel, horizontal, incised lines (Figure 25, No. 76). Early variants often have vertical or oblique gashes above and/or below the horizontal lines (Figure 25, Nos. 78, 80, and Figure 26, No. 82). Uren variants of the type sometimes have a single line on the lip and gashes or cross-hatching on the interior rim (Figure 25, Nos. 77, 79, and 81). Late types are more inclined to have ovoid notches at the base of the collar (Figure 25, No. 79). Just below the castellations is often a band of three vertical or oblique lines (Figure 26, Nos. 83, 84, and 85). In Uren the horizontal lines turn obliquely downward under the castellations (Figure 26, Nos. 86 and 87) or turn downward and then upward to form a reversed chevron (Figure 26, No. 90).

Shape: Bodies are generally globular, though in earlier times they are slightly elongated and less spherical. Necks are weakly constricted. Collars on late types are vertical and sharply defined (Figure 24, Nos. 29, 30, 84 to 91, 98, 103, 109), while on the earlier types they are slightly outflaring and poorly defined (Figure 24, Nos. 31, 32, 105 to 109). All collars are channelled on the interior. Castellations appear, though they are rare. The exact number is not known, but on Erie sherds only one appears.

Diagnostic Features: Horizontal lines on short channelled collars.

Temporal Significance: The type appears throughout most of Erie, Neutral, Huron, Onondaga-Oneida, and Seneca history. It is usually dominant in the earlier stages.

Geographical Range: The type occurs in the Peninsula area of Ontario, in New York west of Seneca Lake, and in Pennsylvania in the area adjacent to Lake Erie.

Relationship: This type closely resembles other early Iroquois types, such as Fonda Incised and Cayuga Horizontal. In fact, all these types might well be combined to form a Super-Pan-Iroquoian type. It may well be the first of the types with incising on the collar and may have developed directly from earlier cord wrapped, paddle-edge and linear stamp types which had similar decorative motifs on similarly shaped vessels and which had incising on the necks only. This type may be indirectly in the ancestry of the other incised types in that it first introduced the stylistic concept of incising on the collars and incising as the only decoration.

Middleport Oblique (Plate III, figures 5 to 8)

Paste and Surface Finish: Same as previously mentioned.

Decoration: The commonest motif is parallel oblique incised lines or gashes on the upper rim with horizontal lines on the lower rim

and neck (Figure 24, Nos. 149, 150, 152). A variant of this decoration is parallel oblique incised lines on the upper exterior rim with a horizontal line or horizontal lines on the lower rim or at the base of the collar (Figure 26, No. 153). On the neck will be further bands of parallel oblique gashes. Often there is a single incised line in the middle of the flattened lip. A final class of decoration of this type, which is rare, has oblique parallel lines on the rim with notches or linear punches at the base of a weak collar (Figure 27, No. 172, and Figure 26, No. 139).

Shape: Rims are slightly outflaring and have a poorly-defined collar.

Necks are very slightly constricted. Bodies are probably globular.

Diagnostic Feature: Short parallel oblique lines on the upper rim with notches, horizontal line or lines, or linear punches on the lower rim or at the base of the incipient collar are distinctive features of the type.

Spatial and Temporal: This type has been found only in the Middlesex, Pound, and Southwold sites of southern Ontario and is a time marker for the middle period of the development of the prehistoric Neutral.

Relationships: This type developed from Ontario Oblique and is possibly an ancestor of Lawson Necked.

Middleport Criss-Cross (Plate V, figures 1 to 4)

Paste: Much the same as Lawson Triangular, though usually flakier and less compact.

Surface Finish: Not known.

Decoration: The distinguishing decorations are criss-cross incisions on the outer rim. Though this is the sole decoration on four sherds, they usually have other incised decorations below them (Figure 27, No. 166). This other incised decoration may be horizontal incised lines (Figure 27, No. 178), or short vertical incisions (Figure 27, No. 165), or zig-zag incisions (Figure 27, Nos. 164 and 165), or horizontal lines underlaid by a band of vertical incisions (Figure 27, No. 171). There is a tendency for the Uren sherds of this type to have criss-cross or oblique incisions on the interior rim, but this is rare on Middleport sherds.

Shape: Bodies are globular or elongated globular with very slightly constricted necks and short, poorly-defined collars. Castellations are rare.

Diagnostic Features: Particularly distinctive are the criss-cross incisions on the exterior rims.

Spatial and Temporal Significance: This is a middle prehistoric type found mainly at Middlesex, though it does appear as a minority type at Uren. It has not been found outside lower Ontario.

Relationship: The type appears to have originated during Uren times and reached its zenith during Middlesex times. Lanoré Crossed is closely related to it. This type may be vaguely related to Hopewell types or Kipp Island Criss-Cross of late Point Peninsula, which have incised criss-crossing on the outer rims, but more likely it is a re-use of a relatively simple motif, rather than a development from the early forms.

Ontario Oblique (Plate IV, figures 1 to 6)

Paste and Surface Finish: The same as Middlesex Criss-Cross.

Decoration: Decoration consists of vertical (Figure 35, No. 179), zig-zag (Figure 27, No. 162), or herringbone lines (Figure 26, Nos. 161 and 162) on the rim and neck, bands of oblique lines on the rim and neck (Figure 26, Nos. 156, 157, 158), and bands of oblique lines on the rim and neck separated by a horizontal incision (Figure 26, Nos. 159, 160, and 161). Lips are sometimes notched, as are interior rims. Lips may have incisions in their centre (Figure 26, No. 155).

Shape: Rims are usually outflaring and are usually without a collar. There is a tendency for a few more with a collar to appear in Middlesex than in Uren, but even then they are not numerous. Necks are slightly constricted and bodies globular or elongated globular.

Diagnostic Features: Bands of oblique lines either parallel or opposed on the neck and rim on globular-bodied vessels differentiate this type from others.

Temporal and Spatial Significance: The ware is dominant in Uren times but lasts until Middlesex times. It has been observed only in lower Ontario.

Relationship: It is ancestrally related to the Middleport Oblique type and is undoubtedly derived from Owasco types with similar designs but different design technique, such as Uren Dentate or Uren Corded.

Uren Noded (Plate IV, figures 7 to 11)

Paste and Surface Finish: Same as Ontario Oblique.

Decoration: The distinctive feature of the decoration are the nodes. These are made by punching the interiors with a solid cylindrical object about one-quarter inch in diameter. On the exterior, opposite the interior punching, are bosses or nodes. These protuberances usually appear just below an incipient collar. Most sherds have other designs with the nodes, such as cross-hatching, oblique lines, zig-zag lines, or horizontal lines. A very few have nodes only. Interior rims usually bear decoration in the form of oblique short lines or cross-hatching. A few have horizontal lines on the interiors.

Shape: Necks are slightly constricted, bodies globular or elongated globular, and rims bear an incipient collar. The collars appear to have been constructed by channelling the rim interiors rather than by adding an appliqué of clay to the rim exteriors.

Diagnostic Feature: Exterior nodes on or below incipient collars.

Temporal and Spatial Range: The type is known from Uren only.

Relationship: Probably derived from noded types in Ontario Owasco.

Iroquois Linear (Plate V, figures 5, 6)

Paste: Temper is grit.

Texture: All sherds are flaky and have a laminated structure. There are minor variations in the different series: those from

Bristol, Dansville, and Uren have a slightly poorer consistency than those from Ivey, Goodyear, and Chance.

Colour and Hardness: Same as previously described.

Surface Finish: Few whole pots of this type exist; a few of those found have check-stamped surface. However, cord marked and smooth surfaces probably do occur.

Decoration: Decoration is usually on collars and consists of three (rarely four or five) parallel horizontal lines of overlapping linear punches. (This technique has also been called "push and pull," "push and drag," as well as "fingernail marked".) The linear punches are usually narrow (one-sixteenth inch) and about one-third inch long. Rarely, on Uren specimens, they are shorter and wider. Some sherds have notches on the base of the collar, while a very few have notches both above and below the horizontal lines. A few sherds from Ivey and Goodyear (and Bainbridge) have oblique bands of four parallel incised lines on the neck. Goodyear and Bainbridge rims are often notched.

Shape: The collars are usually short (less than $1\frac{1}{2}$ inches in height), though a few from Woodley are 2 inches high. The collars are not sharply differentiated from the neck, the outer surface is straight to bulging, and the inner surface is concave (Figure 24, Nos. 29 to 32). Castellations are very rare and, when they do occur, are not sharply defined.

Diagnostic Feature: Decorations of parallel horizontal lines of overlapping linear punches on short to medium high, poorly-defined collars.

Spatial Range: This type is spread over most of New York State, the Ontario Peninsula, and some of northern Pennsylvania.

Temporal Range: In all series this type appears very early and is in the period of transition from Owasco to Iroquois.

Relationship: The type is closely related to, and probably derived from, Owasco Corded Collar and Bainbridge Collared Incised. The Owascoid Bainbridge Linear type is an extremely similar, if not the same, type. It may well be ancestrally related to a series of types decorated with horizontal incised lines, such as Ontario Horizontal, Fonda Incised, Long Point Horizontal, or Cayuga Horizontal. Originally, this type was divided into a series of types which occurred in each series on the basis of such minor characteristics as incising on the necks and height of collar. However, checking with the specimens soon revealed that most linear stamped sherds of each series were indistinguishable and that the variability of sherds within any one series was almost as great as the variability in all the different series combined. Therefore, the variants were lumped together as one general type. This type is important, because it appears to be a conclusive link between late Owasco and early Iroquois, as well as a time marker.

Uren Corded (Plate V, figures 7 to 10)

Paste and Surface Finish: Same as Middleport Criss-Cross.

Decoration: Decoration was applied with the edge of a cord-wrapped paddle. The designs are of two types: (1) Rows of short oblique

impressions on the neck and rims; (2) Horizontal lines of impressions on neck and rims. Perhaps with the addition of more data these two motifs may become the basis for further types. Lips and inner rims often have the same types of decoration.

Shape: Vessels of this type have incipient collars that flare out (Figure 24, Nos. 106 to 109), or simple outflaring rims (Figure 24, Nos. 57 to 61). A few have beaded rims (Figure 24, Nos. 62 and 63). Necks are slightly constricted.

Diagnostic Features: Oblique or horizontal cord-impressed designs on outflaring rims or on incipient collars which flare out.

Temporal and Spatial Range: This kind of pottery is found at Uren and in the lower levels of Clearville and seems to be confined to the Ontario Peninsula.

Relationship: This type is derived from and related to Owasco types, with similar design, technique of design, and vessel shapes.

Uren Dentate (Plate V, figures 11, 12)

Paste and Surface Finish: Same as Middleport Criss-Cross.

Decoration: Decoration is done with a toothed implement. The dentate impression is usually square or just barely rectangular. Generally speaking, the impressions are not well executed. The motifs are closely related to those that appear on Uren Corded.

Shape: Same as Uren Corded.

Diagnostic Features: Horizontal lines of dentate impressions or horizontal bands composed of parallel oblique dentate impressions showing 3 to 6 tooth-marks on vessels with outflaring rims or collars.

Temporal Range: This type lasts until Uren times and appears at the Owascoid Krieger site and may extend back into the Point Peninsula.

Geographical Range: Western part of the Ontario Peninsula.

Relationships: Derived from Owascoid types of the Goessens and Krieger sites. It, like Swarthout Dentate of the Onondaga series, is a survival from much earlier horizons.

NEUTRAL ABERRANT SHERDS

The table below shows the occurrence of the various aberrant sherds in the Neutral sites, as well as their type names and tribal affiliations. These sherds, as well as the Neutral types that occur in numerous other series, help to correlate the Neutral series with other tribal ceramic developments. Ontario Horizontal and Iroquois Linear would link Uren and Middleport with the Ivey, Lanorie, Onondaga-Oneida sites; Dansville Flats, Seneca site; Goodyear Lake and Chance, Mohawk sites; and the Bristol and Woodley, Cayuga sites. The Huron series, on the basis of the Huron Incised, Seed Incised, and Black Necked, seem generally equated with the late Neutral sites, such as Buffum Street, Lawson, Southwold, and perhaps Pound, while the Seed and Southwold sites appear to be closely linked on the basis of the large number of Seed Incised, Black Necked, and Huron Incised. On the basis of Baum Corded in the Pound site, the Baum Focus of the Fort Ancient Aspect is at least as old as the Pound Site.

Table I

Distribution of Neutral Aberrant Sherds

Types	Buffum St.	Lawson	South- wold	Pound	Middle- port	Uren
Huron Incised.....	1	5	30			}Huron
Seed Incised.....			21	1		
		3	6	3		
Onon. Triangular.....		4	5			}Onon.- Oneida
Syracuse Incised.....		3	2			
Cayadutta Incised.....			2			Mohawk
Cayuga Horizontal.....		1	1			}Cayuga
Richmond Incised.....			1			
Seneca Barbed Collar.....	4		1			}Seneca
Dutch Hollow Notched.....	1					
Baum Corded.....				1		}Baum Focus Shawnee?

CHAPTER III

ERIE POTTERY TYPES

GENERAL

A study of Erie pottery and artifacts presents two very serious difficulties which, I believe, are inherent in the materials. First, there is no good documentation of the location of Erie villages, and secondly, the series of sites I have is very small.

Few explorers visited Erie villages before their extermination by the League of the Iroquois about 1654, and none left accurate enough reports to enable us to determine the exact village locations. A brief survey of the literature reveals the following pertinent facts: that the Erie occupied the general area west of the Wenro along Lake Erie in western New York and northern Pennsylvania in early historic times; that they were numerous and lived in large villages; that they were great users of shell ornaments; and that they were Iroquois and culturally related to other Iroquois-speaking groups.

In western New York the Ripley site has early historic goods in association with aboriginal goods. It is a large, rich site. A great number and variety of shell ornaments were uncovered, and the artifact complex is very similar to that of the Neutral and Seneca. Much the same may be said of a site reported by H. Schoff and E. Carpenter at 28th Street in Erie, Pa. On the basis of the evidence of general area, early historic time, large village, variety of shell artifacts, and the Iroquois cultural affiliation, I accept the Ripley site (and the 28th Street site) as

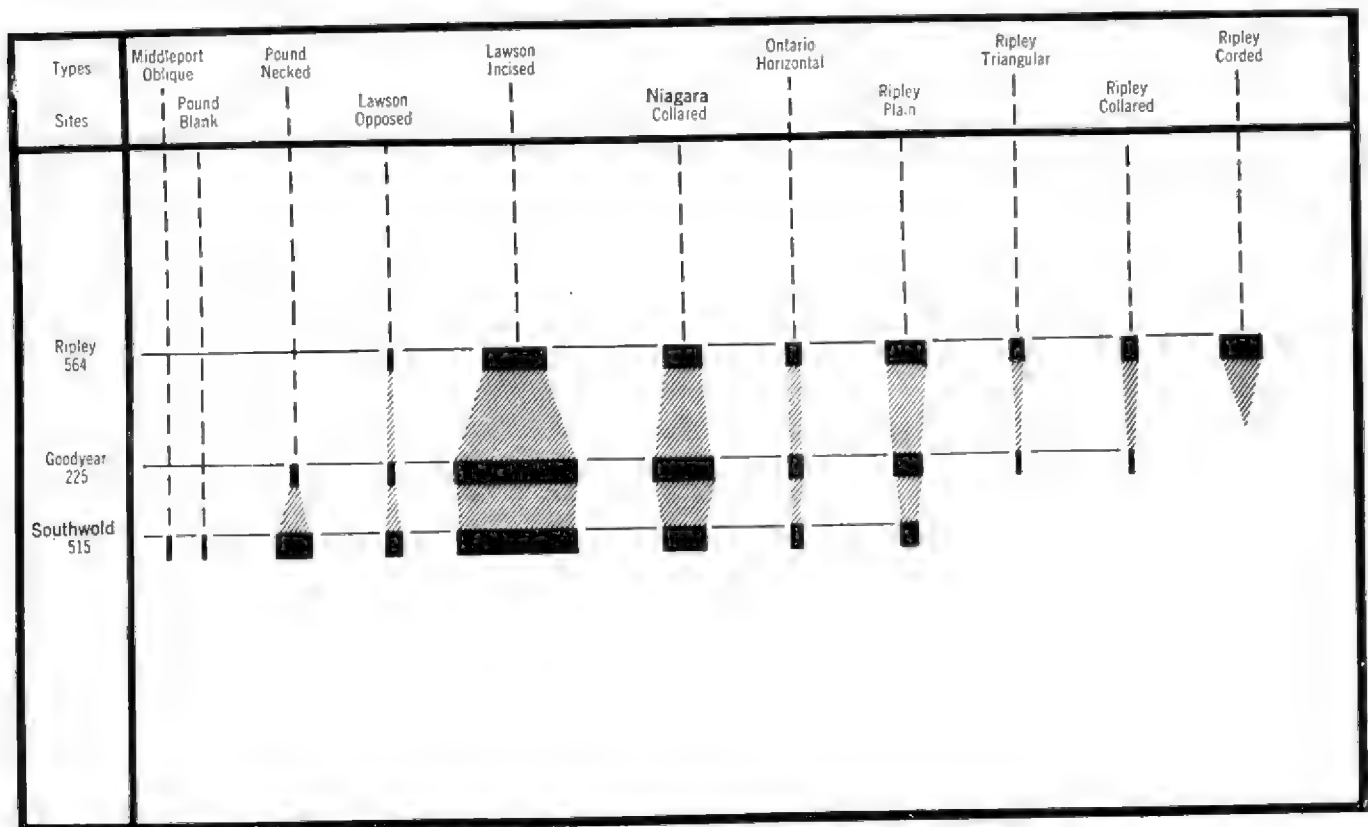


Figure 8. A graph of the seriations of Erie pottery types.

Types	Middleport Oblique	Pound Necked	Lawson Opposed	Lawson Incised	Niagara Collared	Ontario Horizontal	Ripley Plain	Ripley Triangular	Ripley Collared	Ripley Corded
Sites										
Ripley 564	—	—	6 .01	167 29	79 .14	32 .05	35 .05	30 .04	104 .18	93 .16
Goodyear 225	—	2 .01	9 .03	113 .54	57 .25	12 .05	27 .11	2 .01	3 .01	
Southwold 515	1 - 6 .00 .01	71 .14	49 .09	255 .50	97 .19	9 .02	29 .06			

Figure 9. The seriations of Erie pottery in terms of number of specimens and percentiles.

representing historic Erie villages. My acceptance is tentative and subject to change if more documentary evidence is brought to light or archaeological sites that better fit the facts concerning the Erie are discovered.

In my seriation I have only the historic Ripley site from Ripley, N.Y.¹ and the prehistoric Goodyear site from just south of Buffalo along Lake Erie.² That they are related there is little doubt. Ceramic trends, seriations of pottery types, and surface finish trends (as well as pipe trends and general artifact assemblages) reveal that the Goodyear and Southwold Earthworks sites are undoubtedly related and, very probably, that Southwold or something extremely similar is ancestral to Goodyear. At present there is no better ancestor for Goodyear than the Southwold Earthworks site.

If this development from Southwold Earthworks to Goodyear and Goodyear to Ripley is correct (and I believe it is), then the differentiation of the Neutral and Erie took place in very late prehistoric times. A reconstruction, based upon the location of sites, the temporal position, and the relationship of the sites, is the following: proto Neutral-Erie (and Huron) began its development in the western lower peninsula area of Ontario from an Owascoid base. The Uren site is representative of an early stage in this development. Gradually the Middleport type of culture developed from Uren and spread over most of the lower Ontario Peninsula and into western New York. About the time of the Southwold Earthworks, which had developed from Middleport and Pound, a part of the eastward expanding group just south of Buffalo separated and began a cultural tradition (and possibly a political one) a little different from that of the Southwold Earthworks type. This tradition then separated further culturally from the Neutral and gradually moved southwest along Lake Erie and, at historic times, is recognized as the Erie tribe. Evidence for this statement is the historic Erie site at Ripley, N.Y., and Erie, Penn., that developed from the Goodyear type of culture. While that development was taking place along Lake Erie, the Southwold Earthwork type of culture developed into the Lawson type in western New York and lower Ontario, which in turn gave rise to the culture of the historic Neutral-Wenro as shown by the materials from the Buffum Street site. This represented a ceramic tradition similar to, but distinct from, that of the Erie, although they had a common ancestor.

Lawson Incised, Lawson Opposed, Lawson Necked, Pound Blank, and Ontario Horizontal appear in Erie sites and have been previously described as Neutral Pottery types.

Ripley Corded (Plate VI, figures 1 to 3)

Paste:

Temper: The temper is grit, about 2 mm. in diameter, in small amounts.

Texture: The sherds are flaky and poorly knit. Often their surfaces are crackled, and large flakes shear off.

¹A. C. Parker: *An Erie Indian Village and Burial Site at Ripley, Chautauqua County, N.Y.* Bulletin of the New York State Museum, No. 117, Albany, N.Y., 1907. I should like to thank Dr. D. Scott of the Peabody Museum of Harvard University for allowing me to examine the materials they have from the Ripley site.

²I am most grateful to Miss Cumming and Miss White of Buffalo, N.Y., for allowing me to study these sherds that they excavated so carefully from the Goodyear site. They were most helpful in supplying me with additional data concerning the pottery and discussing the cultural relationships of the site.

Colour: Exterior surfaces have considerable range in colour from orange to black. In cross-section the inside is almost always black, and the surfaces are slightly lighter in colour.

Hardness: 2-5.

Surface Finish: All the exteriors are cord marked. The cord impressions are close together and almost always run in a vertical direction.

Decoration: Decoration is rare; on two sherds it consists of round punctates at the bottom of a collar (Figure 27, No. 174). On one pot the cord marking on the collar is horizontal and opposed to the vertical cord impression on the neck and body. Lips have either cord impression on them or small incisions. Incisions rarely appear on the inner rim.

Shape: Three vessel forms appear. The most common form is a flaring, outsloping rim with a globular body (Figure 24, Nos. 57 and 61). Castellations do not appear with this form. A second form has a globular body, slightly constricted neck, and slightly outflaring bulging collar (Figure 24, Nos. 66 and 109). This type does not have castellations. The third type has a globular body, short constricted neck, and an incipient short collar (1 inch in height) (Figure 24, Nos. 104 and 31). The vessels often have a single spout-like castellation. These various vessel forms represent variants of a type which, in light of further work, may be subdivided.

Diagnostic Feature of the Type: Grit tempered, cordmarked vessels with a globular body with either an outflaring mouth or a short collar distinguish this type from others.

Temporal Significance: This type has been found only at the Ripley site and the 28th Street site, reported by Schoff and Carpenter. However, types very similar to it are to be found in the Whittlesey Focus and in late sites along Lake Erie.

Relationships: The type appears to be related to cordmarked types in the Whittlesey Focus and along western Lake Erie. It appears to have been adopted by the Erie as they moved westward along Lake Erie and met people using this type or similar types in northern Ohio and northwest Pennsylvania. Trade pots of the type appear in the Seneca Dutch Hollow and Cornish sites which indicate their contemporaneity and also indicate what was happening to some of the Erie people or to objects of their manufacture.

Ripley Plain (Plate VII, figures 1, 2)

Paste: Same as Ripley Corded.

Surface Finish: The pots are smooth surfaced, evidently having been smoothed while still wet or only partially dried. The smoothing is poorly done, and wavy sections are to be found.

Decoration: Decoration is rare and, when it occurs, consists of incising the lip.

Shape: Vessels have globular bodies and a small mouth with an insloping neck and rim (Figure 24, Nos. 64, 65, 66).

Distinguishing Features: Paradoxically the most marked characteristic of this pottery, when compared with other Iroquois types, is its lack of distinctive features. This is in itself distinctive; its diagnostic features are its smoothness, total lack of decoration, and the small-mouthed globular pot form.

Temporal Significance: It appears to be a late type with perhaps a long history starting in Uren times and reaching its zenith in historic times. The type is to be found as aberrant sherds in the earlier historic Dutch Hollow Seneca and Lawson Neutral sites.

Spatial Significance: Western New York seems to be its centre, though it appears also in Ontario. Aberrant sherds of this type have been found at the Seneca Dutch Hollow site and Cornish, which no doubt attests to the adoption of Neutral women after the conquest of the Neutral by the Seneca.

Relationships: It is related to Neutral culturally and may develop out of the early plain Owascoid type.

Niagara Collared (Plate VII, figures 3 to 5)

Paste: The paste is identical with Ripley Corded.

Surface Finish: The surfaces are smoothed.

Decoration: Decoration is usually absent, but in rare cases (usually during prehistoric times) the lips of vessels are incised.

Shape: Bodies are globular and necks slightly constricted. The vessels always have a short (about 1 inch) collar formed by an appliqué of clay and then smoothed into the rim. They usually have a single castellation (although one example has four) which may, rarely, have a vertical ridged appliqué of clay under each castellation. Most common are shapes seen in Figure 24, Nos. 31, 68.

Distinguishing Features: The distinguishing features are the smooth surface and the undecorated short collar.

Temporal Range: The type reaches its zenith just before historic times but is present for a considerable time prior to that climax.

Geographical Range: The centre of its distribution is along the east end of Lake Erie at a late date, but it is present earlier in the Peninsula area of Ontario.

Relationship: This type is first seen in the Uren site and evidently carries on in the Neutral and Erie after their separation. In fact, it is a specific link between the two cultures. It is found in the historic Seneca Dutch Hollow site and appears as evidence of the submergence of Erie culture by the Seneca.

Ripley Collared (Plate VI, figures 4, 5)

Paste, Surface Finish, and Shape: Identical with that of Niagara Collared.

Decoration: Consists of gashes or markings made by punching with a round, pointed implement at the base of the collar.

Diagnostic Features: Plain collared jars with punching at the base of the collar.

Temporal Range: It is mainly a historic ware.

Geographical Range: It is found only in Neutral sites.

Relationships: The type is obviously derived from Niagara Collared, but its exclusive use by the Erie justifies its establishment as a separate type. It bears similarities to Long Point Notched and Seed Notched.

Ripley Triangular (Plate VIII, figures 1 to 4)

Paste: Like Ripley Collared.

Surface Finish: The surface finish is not known, owing to our lack of whole vessels. However, the fact that many body sherds of this time period are smooth leads us to suspect that the surfaces of this type are smooth.

Decoration: Is usually on the collar, though punctates may appear on the shoulder. Decoration is of bands of four or five incised lines at oblique angles with the ends of the bands overlapping, thereby forming opposed undecorated triangles (*See Figure 26, No. 131*). About one-third of the rim sherds have notches at the base of the collar (*Figure 26, No. 132 or 130*). The incising is usually carelessly done.

Shape: Globular bodied jars with a short collar with or without a single castellation.

Diagnostic Features: Short collars and blank triangles formed by overlapping oblique bands of parallel lines are the type's distinguishing feature.

Temporal and Spatial Significance: The type is at present known only from historic or very late prehistoric Neutral sites.

Relationships: The type is related to Lawson Incised and probably derived from Pound Blank. Except for the lack of notches filling the base of the triangles, it could well be mistaken for Pound Blank.

ERIE ABERRANT SHERDS

Few aberrant sherds were found at Ripley or Goodyear. Moreover, the late position of the Erie has been shown to be after the Neutral Southwold site. The presence of Warminster Crossed in both Ripley and Goodyear, however, does link the Sidey-Mackay, Warminster, and Orr Lakes sites to them, as well as to Lawson and Buffum Site of the Neutral series.

Table II

Distribution of Erie Aberrant Sherds

Types	Ripley	Goodyear
Cayuga Horizontal.....	2	0
Richmond Mills Incised.....	1	1
Seneca Barbed Collar.....	1	1
Warminster Crossed.....	1	1?
Huron Incised.....	1	3

CHAPTER IV

HURON POTTERY TYPES

GENERAL

A number of historic Huron villages have been identified by ethno-historians, and some have been excavated by archæologists.¹ Unfortunately the only well-defined site having an adequate sample of sherds available to me was the Orr Lake site.² This site just north of Orr Lake coincides very closely with the location of St. Michel, as worked out by Jones from the early reports and maps, and I think may be safely identified as St. Michel.³ A smaller sample of sherds was also available from the Warminster site which has been tentatively identified as the site of Cahique visited by Champlain.⁴ The same pottery types are present at both sites, although the kinds of aberrant sherds and percentages of types vary. Huron Incised and Warminster Crossed are the dominant types. The Sidey-Mackay site, with one object showing historic contact, on the basis of pottery type seriations and trends connects closely with Warminster.⁵ Because the site was in Tobacco Nation territory, Wintemberg identified it as a Petun site. If this identification is correct, then the Petun and Huron ceramic complexes are indistinguishable. The Seed site of York County, just south of the Hurons' historic home, is closely connected with Sidey-Mackay on the basis of the presence of Seed Corded, Seed Incised, and Sidey-Notched, as well as the types dominant at historic times.⁶ On the basis of ceramic trends and seriations of types, the Woodbridge and Black Creek sites near Toronto precede that of the Seed.⁷ This part of the sequence is characterized by the dominance of the Black Necked and Neutral types and the absence or diminution of Warminster Crossed, Sidey Notched, and Seed Corded. Generally speaking, the sequence, though rather short, has sites both historic and prehistoric with adequate samples. (For further illustrations of seriations see Figures 10 and 11.)

In addition to the trends and seriations of pottery types, another ceramic feature, castellations, aligns the sites in the same order. There are three types of castellations: pointed castellations (Plate XI, No. 8),

¹The best ethno-historical work is by A. E. Jones, "8endake Ehen" or "old Huronia," 5th Rept. Bur. Archives Ontario, Toronto, 1908. W. Jury has excavated the Train site, and K. Kidd has excavated St. Marie, both of which were identified by Jones. The few sherds and pipes I examined show them to have materials that can be duplicated at the Orr Lake site.

²I should like to thank Mr. D. McGuire of Midlands, Ont., for allowing me to examine his materials, and Mr. K. Kidd of Royal Ontario Museum of Archæology for allowing me to study the artifacts from Mr. D. McGuire in that Museum.

³Rev. A. E. Jones: "Identification of St. Ignace II and of Ekorennsonadi" in the Annual Archæological Report 1902, being part of the appendix to the report of the Minister of Education, Ontario, printed by L. K. Cameron, Toronto, 1903, pp. 123, 124.

⁴T. F. McIlwraith stated at the Iroquois Conference in 1947 that he believed the Warminster site to be Cahique. The University of Toronto has excavated on this site for a number of seasons, but I have not seen these materials. Mr. John Steele of Hamilton, Ontario, who has done some careful digging on this site, was most generous in allowing me to examine and study sherds in his well-organized private collection.

⁵W. J. Wintemberg: "The Sidey-Mackay Village Site," American Antiquity, No. 11, pp. 154-184, Menasha, Wisc., 1946.

⁶I am indebted to Mr. E. J. Case of Toronto for his assistance in studying these materials and for his hospitality.

⁷Mr. J. N. Emerson of the Department of Anthropology of the University of Toronto has excavated these sites. My personal opinion is that these two sites are the most carefully excavated of any sites in Ontario. Mr. Emerson was most co-operative in giving his time and energy to analyse the sites and in allowing full use of his materials.

Types	Pound Necked	Middleport Oblique	Ontario Horizontal	Lawson Incised	Black Necked	Sidey Crossed	Seed Incised	Huron Oblique	Warminster Crossed
Site									
Orr Lake 346				8 .02	12 .03	4 .01	3 .01	213 .51	46 .13
Warminster 291			2 .01	1 .0	5 .02	1 .00	1 .0	132 .45	68 .23
Sidey Mackay 278			4 .01	12 .04	17 .06	10 .03	24 .09	87 .31	26 .10
Seed 355			3 .01	10 .03	15 .04	3 .01	97 .27	112 .31	3 .01
Woodbridge 226			10 .04	6 .03	6 .03	2 .01	18 .08	94 .42	51 .23
Black Creek 378	13 .03	12 .03	52 .14	11 .03	126 .33	1 .00	3 .01	95 .25	

Figure 10. The seriations of Huron pottery types in terms of numbers of sherds and percentiles.

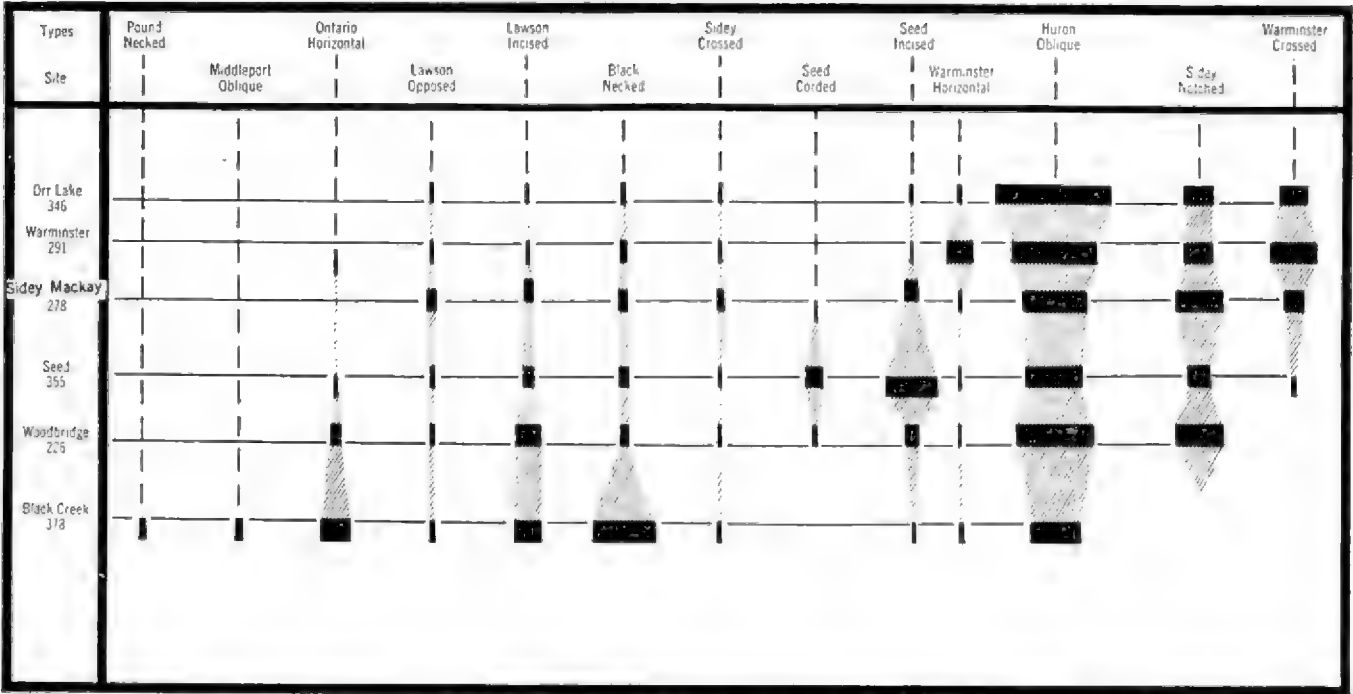


Figure 11. A graph of the seriations of Huron pottery types.

bifurcated castellations (Plate XI, No. 6), and squared castellations (Plate IX, No. 4). At historic times (Orr Lake and Warminster sites) squared castellations are dominant with the other types in the minority, while during late prehistoric times (Sidey-Mackay and Seed) the three types appear in about the same proportion, while in the early part of the series (Woodbridge and Black Creek), pointed castellations are dominant, though a few square castellations appear. This seriation of castellation types confirms the sequential order of sites based on the overlapping pottery types (and, I might add, agrees with the seriations of pipe types).¹

Table III
Seriation of Castellation Types

Types	Total castellations	Pointed castellations	Bifurcated castellations	Squared castellations
		%	%	%
Orr Lake.....	52	12 (6)	10 (5)	78 (41)
Warminster.....	22	23 (5)	27 (6)	50 (11)
Sidey-Mackay.....	85	54 (46)	25 (21)	21 (18)
Seed.....	35	66 (23)	17 (6)	17 (6)
Woodbridge.....	20	55 (11)	10 (2)	35 (7)
Black Creek.....	45	93 (43)	0 0	7 (2)

On the basis of the chronology of sites and their geographical position, there seems to have been a gradual shift of the Huron sites from the Toronto area to the Lake Simcoe region. In other words, the Huron had been moving away from the Neutral area. This geographical movement is paralleled in ceramic trends, for there is a tendency in the later Huron sites for Neutral pottery types to diminish, though the Huron

¹Decoration directly under the castellation on the rim is often far different than on the rest of the rim and often bears complex designs. Since I am unable to correlate rim design and designs below the castellations and since there is no temporal significance in the latter type of designs, they are not included in the study.

types are not radically different from Neutral types even at historic times. The Neutral pottery types in the Black Creek site indicate that it may be equated with the time period between Pound and Southwold in the Neutral series. Though it is far from proved, the data suggest that the Huron have branched off from the Neutral series and that this splitting may have occurred at about Middleport times (See Figure 22).

Warminster Crossed (Plate IX, figures 1 to 4)

Paste: The temper is grit in small amounts.

Texture: The interiors are well knit, though they have a tendency to be laminated. A study of the cross-sections reveals no coil breaks and many laminations. This I have interpreted as meaning that the pots were made by the paddle and anvil method. This agrees with the documentary evidence.

Colour: Range is from light brownish orange to black, and cross-sections show the dark interior contrasting sharply with the clay near the surfaces. There is a tendency for the clay near the exterior surfaces to be considerably lighter than that near the interior surfaces.

Hardness: Around 3.

Surface Finish: During the historic time period, most of the surfaces are smooth; a few show grooved paddle surfaces.

Decoration: The decoration is predominantly on the short collars and consists of a series of closely spaced parallel oblique incisions crossed by a series of crudely made parallel oblique lines in the opposite direction, which are not so closely spaced (Figure 26, Nos. 136 and 137). Lips may be notched but usually are not (Figure 26, No. 138). A very few have incised lines forming opposed triangles on the neck. At the castellations, which are usually squared, the decoration is different. In the centre of the castellation is often a single vertical line, while the closely-spaced oblique lines form V's. The widely-spaced parallel lines thus form a chevron. Rarely is there more than one vertical line under the castellation, and there are a few cases with no vertical line. Handles, when they occur, have a series of horizontal incisions on them. Shoulder areas are usually decorated with a variety of triangles filled with parallel incisions.

Shape: Bodies are globular and necks very constricted. Rarely the shoulders are angular; usually they are smooth. Collars are slightly outflaring and are short (less than $1\frac{1}{2}$ inches tall). (Most common is No. 119 of Figure 23, with Nos. 120, 114, 112, and 104, in that order.) The interiors of the collars, except at the castellation, are not channelled or concave but are straight or convex. Castellations are usually squared at the top and notched. One or two castellations occur. Under the castellation there is often a handle which is square in cross-section.

Diagnostic Features of the Type: Closely-spaced oblique lines crossed by widely-spaced oblique lines in the opposite direction on short outflaring collars with straight or convex interiors are the distinguishing features of the type.

Temporal Range: This is mainly a historic type, though it appears in late prehistoric sites.

Geographical Range: It occurs in Huron territory but is found also in significant amounts at the Jackson site in Montgomery County, New York, and St. Michaels site in Livingston County, New York. The last two sites are both documented as historic captive Huron villages.

Relationships: The type is similar to Sidey Crossed, Huron Incised, and Lawson Incised, and probably derived its concepts from one or all of these. The use of handles, rare in Iroquois pottery, seems to be derived from some outside sources. The presence of Fort Ancient sherds in various Huron sites points to this group as the probable donor of the concept. The bulging inner surface of the collars and the squared castellations appear to have been local Huron inventions or adaptations.

Sidey Notched (Plate IX, figures 5 to 8)

Paste and Surface Finish: Same as previous type.

Decoration: Decoration consists of closely spaced oblique (Figure 25, Nos. 2 and 11) or vertical lines (Figure 33, No. 19). Rarely these fill opposed triangles (Figure 25, No. 29). The lips are always notched. Neck decorations do not occur, though shoulder decorations are present. Under the castellations, there is a variety of decorations including: (1) Opposed oblique lines with their junctions just under the centre of the castellation; (2) A vertical line or lines under the castellation with opposed or parallel oblique line on both sides of the verticals; (3) Opposed isosceles triangles filled with oblique lines; (4) Parallel horizontal lines below the castellation with oblique lines under them; (5) Parallel horizontal lines under the castellation with a band of horizontal lines just under the middle of the castellation with oblique lines on both sides of the verticals.

Shape: Bases are round; bodies globular, though a few are cylindrical (shoulders on the latter type are at an angle to the neck). Necks are constricted. Handles rarely appear. Castellations are usually squared or bifurcated, though some of the early ones are pointed. Collars are short, outflaring, and the interiors are usually convex, though some are straight or slightly concave (Figure 24, No. 119). Castellations are one, two, or four in number.

Diagnostic Features: Closely spaced parallel oblique or vertical lines on a short collar with a convex or straight interior. Lips are always incised or notched.

Temporal Range: The type appears in all but the earliest site of our series and reaches dominance about the time of white contact.

Geographical Range: The type is mainly in Huronia but appears in Jefferson, Livingston, and Montgomery County, New York, as well as in the Neutral area of the lower Ontario Peninsula.

Relationships: The type is closely related to Huron Incised and probably derived from it. It differs from the latter in having notched or incised lips and a tendency to have square castellations.

Huron Incised (Plate X, figures 1 to 6)

Paste: Same as previously described.

Surface Finish: There is considerable variation in surface finish on this type which reflects the temporal change within the type. At historic times the body sherds are usually smooth, while earlier they may bear the impressions of a grooved paddle, checked paddle, or a cord-wrapped paddle. A few sherds from the Aurora site even bear impressions of a complicated stamp of the concentric figure-of-eight variety.

Decoration: Decoration consists of oblique (Figure 25, Nos. 1 and 10) or vertical lines (Figure 25, No. 19) on the collar. Rarely these oblique or vertical lines are inside opposed triangles (Figure 25, Nos. 28 and 37). A rare variant of the type has notches either above (Figure 25, Nos. 7, 16, 25, and 34) or below (Figure 25, Nos. 3, 12, 21 or 30), or above and below (Figure 25, Nos. 5, 14, 23, and 32) the incising. Lips are not notched, nor are the necks decorated. Shoulders are, however, decorated. Decorations under castellations are of numerous types and too numerous to describe.

Shape: Bodies are globular, necks constricted, and rims outflaring. Short collars appear which are convex (Figure 24, Nos. 119, 120, 113) or straight on their inner surfaces (Figure 24, Nos. 110, 91, or 90). There is a tendency for the sherds from later sites to be convex, while the earlier ones are straight. Castellations are usually pointed, though sherds of this type from historic sites show the squared castellation to be as numerous as the pointed ones. There may be one, two, three, or four castellations; there is a tendency for early pots to have more castellations than later ones. A few pots have crenelated rims or pointed castellations with their apexes about 1 or 2 inches apart.

Diagnostic Features: Oblique or vertical lines on an outflaring short collared pot with the inner surface opposite the collar straight to convex.

Geographical Range: This type is found in the area from Toronto to Lake Simcoe and westward. It appears as trade sherds in late Neutral sites and in Onondaga-Oneida sites in Jefferson County and at the Roebuck site of Ontario.

Temporal Range: This type appears throughout the Huron series and reaches its zenith during historic times.

Probable Relationships: It appears to be ancestral to the Sidey Notched and Warminster Crossed and very likely derived from Lawson Opposed and Lawson Incised. It differs from the latter type only in having convexities rather than concavities behind the collar and in the occurrence of squared castellations on some of the late forms of this type.

Warminster Horizontal (Plate XI, figures 6, 7)

Paste and Surface Finish: Same as previously described.

Decoration: Decoration consists of three to seven horizontal lines on the collar with vertical (Figure 25, No. 79) or oblique gashes

(Figure 25, No. 78) at the base of the collar. A few sherds do not have the gashes (Figure 25, No. 76), while a few sherds have the lips notched (Figure 25, No. 98). Neck decoration is absent. Below the castellations there are no distinctive designs, though a few do have gaps in the horizontal lines just under the castellations. Shoulder decoration usually occurs.

Shape: Bodies are globular, necks constricted, and short outflaring collars appear. The interior collar sections are convex (Figure 24, Nos. 119, 120, 117), rarely straight (Figure 24, No. 110). Castellations usually are pointed, though a few are squared or bifurcated.

Diagnostic Features: Horizontal lines on a short collar with gashes at the bases of the collar and the interior of the collar convex.

Geographical Range: Mainly in the area of Lake Simcoe, York County, and Toronto.

Temporal Range: It is a minority type throughout Huron history, reaching its zenith at Warminster times.

Probable Relationships: This type no doubt replaces Ontario Horizontal and is derived from it.

Seed Incised (Plate XI, figures 1 to 5)

Paste and Surface Finish: Same as previous types.

Decoration: This type has short vertical gashes at the top of the collar (Figure 26, No. 145), below the collar (Figure 26, No. 145), in the middle of the collar (Figure 27, No. 177, Figure 26, No. 146), or, most commonly, at the top and bottom of the collar (Figure 26, Nos. 148 and 158). Shoulder decorations may occur.

Shape: Collars are short, straight, or concave on the exterior and convex on the interior (Figure 24, Nos. 116, 117, and 119).

Diagnostic Features: Short vertical gashes above, below, in the centre, above and below on short collars with convex interiors.

Temporal Range: It appears throughout Huron history and is dominant at the Seed site.

Spatial Range: It is mainly found in York County but occurs throughout Huronia and as far south as Toronto.

Probable Relationships: The type appears to have been derived from Huron Incised.

Seed Corded (Plate X, figures 7 to 9)

Paste and Surface Finish: Same as previous type.

Decoration: The decoration consists of malleating the collar with a cord-wrapped paddle (Figure 27, No. 176). These cord markings are sometimes accompanied by notches at the base of the collar (Figure 27, No. 174) or near the top (Figure 27, No. 173).

Shape: The pots have short outflaring collars with a convexity on the inner surface opposite the collar (Most commonly Nos. 117, 119, and 116 of Figure 24). Castellations do not seem to be present.

Diagnostic Features: Cord marking on short outflaring collars whose interiors are convex.

Geographical and Temporal Range: This is mainly present at the Seed site, though it occurs at the Aurora, Sidey-Mackay, and Wood-bridge sites.

Probable Relationships: Not known.

Sidey Crossed (Plate XI, figures 8 to 10)

Paste and Surface Finish: Same as previously mentioned.

Decoration: Decoration consists of closely spaced parallel oblique (Figure 26, Nos. 140 and 142) or vertical lines (Figure 26, No. 141) that are crossed in the centre by a horizontal line or a broken horizontal line (Figure 26, No. 139).

Shape: Same as previously described.

Diagnostic Features: Closely spaced parallel oblique or vertical lines crossed by a continuous or broken horizontal line on a short collar which is not channelled.

Temporal and Spatial Range: The type appears throughout the Huron series and also in some of the Neutral sites.

Probable Relationships: It is related to Warminster Crossed and Huron Incised.

Black Necked (Plate XII)

Paste: Same as previously described.

Surface Finish: Many of these sherds have cordmarked surfaces; some are check stamped or marked by a grooved paddle; only a few are smooth. Some of those found on later sites are smooth.

Decoration: Most of this type have opposed triangles filled with oblique lines on the neck (Figure 27, No. 239); a few have only horizontal incisions on the neck (Figure 27, No. 237). On the collars there is a variety of decorations consisting of vertical or oblique lines (Figure 25, Nos. 1, 10, and 19), opposed triangles filled with oblique lines (Figure 25, Nos. 28 and 37), horizontal lines with or without basal collar notches (Figure 25, Nos. 76, 78), notches at the top and bottom of the collar (Figure 25, Nos. 5, 14, 23, and Figure 26, No. 144), and oblique lines crossed by a broken or unbroken horizontal line (Figure 26, Nos. 139 to 142). Shoulder decorations, consisting of oblique gashes, horizontal lines, or a combination of both, occur.

Shape: Same as previously described. Castellations are pointed. There is a tendency for the inner rim to be flat (Figure 24, No. 110, rarely 90), though almost as many are convex (Figure 24, No. 123).

Diagnostic Features: Sherds having a variety of decoration of oblique lines, etc., on the collars (which have a flat or convex inner rim) in combination with necks decorated with opposed triangles filled with oblique lines.

Temporal Relationships: The type is mainly an early Huron type, though it lingers on into historic times.

Spatial Relationships: It is found mainly around Toronto, though a few occur farther north and some appear in the Onondaga-Oneida sites in the upper St. Lawrence drainage.

Relationships: It is probably related to Pound Necked of the Neutral series and may be derived from it.

Ripley Plain, Lawson Incised, Lawson Opposed, Ontario Horizontal, Pound Necked, and Middleport Oblique have been described previously.

HURON ABERRANT SHERDS

The large amounts of Genoa Frilled and Myer's Barbed Collar indicate that the Orr Lake and Warminster sites are contemporaneous with Genoa Fort and Myer's Station, Cayuga sites. The presence of the earlier Cayuga types, Richmond Mills Incised and Cayuga Horizontal, in Sidey-Mackay, Seed, Woodbridge, and Black Creek, indicates a contemporaneity with the Belcher and Richmond Hill sites. The random occurrence of late Onondaga types in the various Huron sites indicates the Huron series to be roughly contemporaneous with the Onondaga series after the time of the Lanorie site. The Seneca types, Dutch Hollow Notched and Seneca Barbed, would appear to connect the Huron sites with the early historic Seneca and the prehistoric Seneca site (Long Point). Erie and Neutral sherds occur in the Huron series and indicate that these three were probably coeval in their later days. The presence of Madisonville Corded in Orr Lake, Sidey-Mackay, and Seed, and the presence of Baum Corded in Seed, Woodbridge, and Black Creek, possibly reflect temporal connection with these two late foci of the Fort Ancient aspect. In the Seed site, three sherds were found bearing complicated stamp decorations of the concentric figure-of-eight variety which probably represent connections to the south-east, though I am unable to identify these as being any of the types described in the literature.

Table IV
Distribution of Huron Aberrant Sherds

Types	Orr Lake	Warminster	Sidey-Mackay	Seed	Woodbridge	Black Creek	Cultural affinities of types
Genoa Frilled.....	96	5					Cayuga
Myer's Barbed.....	2						
Richmond Mills Incised.....	1		10	4	4	8	
Cayuga-Horizontal.....				4	14	2	
Cayadutta Incised.....			14	2	7		Mohawk and Onondaga-Oneida
Syracuse Incised.....	1		4	3	1		
Roebuck Low Collar.....			2	2		3	
Onondaga Underlined.....	4		7	1	3	3	
Onondaga Triangular.....	13	1	3	1	12	10	
Seneca Barbed.....	9	4					Seneca
Dutch Hollow Notched.....	2	1	1	9	1		
Ripley Plain.....				2			Erie or Neutral
Niagara Collared.....	2	2	3			9	
Madisonville Corded.....	1		1	3			Fort Ancient Aspect
Baum Corded.....				6	1	1	

CHAPTER V

SENECA POTTERY TYPES

GENERAL

Many well-documented, early historic Seneca sites exist, thanks to Houghton's study of early documents and subsequent excavations in the sites.¹ Later work added little to his original excellent research.

Unfortunately, few potsherds are available from most of these sites. This is in part due to the wholesale destruction of many of these sites by individuals untrained in science, the poor order of the materials exhumed by trained workers, and by the fact that many sites date from after 1670, when the Seneca were using trade goods and those of captives in preference to things of their own making.

In collections from the Dann site,² identified as Ganounata, a Seneca village destroyed by Denonville in 1687.¹ I saw seven pots of types that link the Dann site to the early historic but unidentified Warren, Factory Hollow, Cornish, Dutch Hollow, and Adams sites.

Four of these pots were of the Seneca Barbed type, two of the Dutch Hollow Notched types, and one of the Ontario Horizontal type. (The other pots were 3 Madisonville Corded, 1 Thurston Horizontal, 1 Ripley Plain, and 2 cordmarked pots of unknown type.) Further, a comparison of pipes and artifacts from the well-documented sites of Beal, Boughton Hill, Marsh, Kirkpatrick, and the Dann site, reveal great similarity with those of the five early historic sites mentioned above. Thus, on the basis of pipe-type similarities, identity of pot types to those from the well-documented Dann site and their location in the general region recognized as Seneca from earliest historic times, I believe we can safely identify Warren, Cornish, Dutch Hollow, Adams, and Factory Hollow as being early historic Seneca sites. This identification leaves something to be desired, and work on early French maps is very necessary. That they are all of the same tribe is attested by the occurrence of the same pottery types (and artifacts and pipe types) in each. The trends of the various pottery types arrange them in chronological order. The Warren³ and Cornish⁴ sites, on the basis of the dominance of the Seneca Barbed Collar and Seneca Notched, appear to be the latest sites in our series.

The increased use of the Dutch Hollow Notched type places Dutch Hollow⁵ and the Adams⁶ site next, while the decrease of these later types

¹Frederick M. Houghton: "The Seneca Nation from 1655 to 1687," *Bull. Buffalo Soc. Natural Science*, Vol. 10, No. 2, 1912, or "The Archaeology of the Genesee County," *New York State Arch. Assoc., Res. and Trans.* Vol. 3, No. 2, 1922.

²Mr. Harry Schoff and Keith Pierce of West Bloomfield, Dr. Ritchie of the Rochester Museum, and Dr. Bingham of the Buffalo Historical Society are to be thanked for allowing me to examine their collections from the Dann site.

³Messrs. Pierce, Farwell, Wray, Schoff, and Hamlin, and the American Museum of Natural History are thanked for the use of their materials.

⁴This material is derived from the collections of C. Carpenter, Hamlin, Pierce, and Hoffman. I appreciate the co-operation of these individuals in allowing me to study their materials.

⁵I am indebted to the following for allowing me to study their collections: Mr. R. Hill of Rochester, A. Hoffman, of East Bloomfield, C. Carpenter of Canandaigua, S. Quinlan of Dansville, Harry Schoff and K. Pierce of West Bloomfield, and Dr. Ritchie, then of the Rochester Museum.

⁶Mr. Wray and H. Schoff were most co-operative in allowing me to study their materials from this site.

and the increase of the Long Point Nocked and Horizontal types, mainly prehistoric, makes Factory Hollow¹ the earliest of our historic sites. Of the many prehistoric Seneca sites that exist, only two, Long Point² and Dansville Flats,³ have produced enough pottery to warrant inclusion in our study. The occurrence of the later types in these sites links them with the others, but the numerous new types that appear certainly indicate that much more information is needed and that these sites are separated from the others and each other by considerable lengths of time.

Just what is ancestral to Dansville cannot yet be demonstrated. However, the presence of Canandaigua (Sackett) types in Dansville and the similarity of Sackett Plain to Dutch Hollow Notched suggest a genetic relationship. If this is true, a site, transitional between the two, should be found somewhere in the triangular area between Dansville, Ithaca, and Canandaigua, New York. This hypothesis, that Sackett Farm is ancestral to the Seneca, has an interesting implication, for, as we shall point out, there is some evidence that the Cayuga culture sprang from a Sackett Farm-like culture. Thus it is possible that both Seneca and Cayuga sprang from a Sackett Farm type of culture. Tribal movements of both people tend to confirm this hypothesis, for the distribution of Seneca sites points toward a general northward movement from Dansville toward Rochester, and the Cayuga seem to have been moving northward and eastward from just east of the same area.

The aberrant sherds in the Seneca sites are most interesting. First of all, Neutral and Huron types are found in the late historic sites, while Erie sherds are found somewhat earlier. This certainly tends to reflect the sequence of the conquests of the League. The larger proportion of aberrant sherds in the Seneca sequence than in the sequences of the other members of the League is significant. It might seem that the Seneca either took larger numbers of captives or allowed them more freedom in continuing their own ceramic traditions or had a well established custom of increasing their tribal number by the medium of captives. Further, throughout Seneca history and late prehistory, a large number of Cayuga sherds are to be found in Seneca sites, while the converse is not true. Parker interpreted this latter phenomenon as indicating a development of the Seneca from a Richmond Mills type of culture. This interpretation faces two serious difficulties which, I believe, make it untenable. First, there are no pottery types (or pipe types) dominant in historic Seneca, nor even good prototypes for historic Seneca types, in the Richmond Mills type assemblage. Secondly, Richmond Mills has numerous artifacts and pipe types that are unknown in historic Seneca sites. Perhaps a better interpretation of these aberrant Seneca sherds was suggested by Houghton. He believed, on the basis of documentary evidence, that the Seneca was a bifurcated group. One part, he suggested, developed in the Genesee and gave rise to Warren, Dann site, and so on; while the other had developed from Richmond Mills and gave rise to such sites as Boughton Hill and Steele Farm. The sequence I have presented tends to agree with this Genesee development, but I have

¹Monsignor Goggin of St. Bernard's Seminary of Rochester, Mr. Farwell and Mr. Phillip of Geneva, Mr. Schoff of West Bloomfield, Mr. Wray of East Avon, and Mr. Yaeger of Oneonta made available to me materials from the site.

²Mr. G. Wright of Pittsford was most kind in allowing me to examine his materials from this site.

³Mr. A. Gessner and Mr. J. Quinlan of Dansville, New York, are thanked for letting me study their materials from this site.

Types	Sparta Dentate	Owasto Collared	Iroquois Linear	Dansville Corded	Ontario Horizontal	Long Point Horizontal	Long Point Notched	Dutch Hollow Notched	Seneca Notched	Seneca Barbed Collar
Sites										
Warren 345	—	—	—	—	—	3 .01	6 .02	44 .12	64 .19	227 .67
Cornish 589	—	—	—	—	—	—	—	—	—	—
Dutch Hollow 1045	—	—	—	—	20 .03	24 .04	118 .20	110 .19	90 .15	230 .39
Adams 481	—	—	—	—	2 .00	65 .06	162 .16	281 .27	143 .14	392 .38
Factory Hollow 326	—	—	—	—	1 .00	40 .08	60 .12	180 .38	20 .04	180 .38
Long Point 164	7 .04	8 .05	10 .06	29 .19	3 .01	20 .05	143 41	40 .10	20 .05	100 .34
Dansville 189	29 .15	9 .05	13 .06	33 .18	33 .18	26 .17	83 .21	14 .07	4 .03	22 .14

Figure 12. Seriation of Seneca pottery types in terms of number of sherds and percentiles.

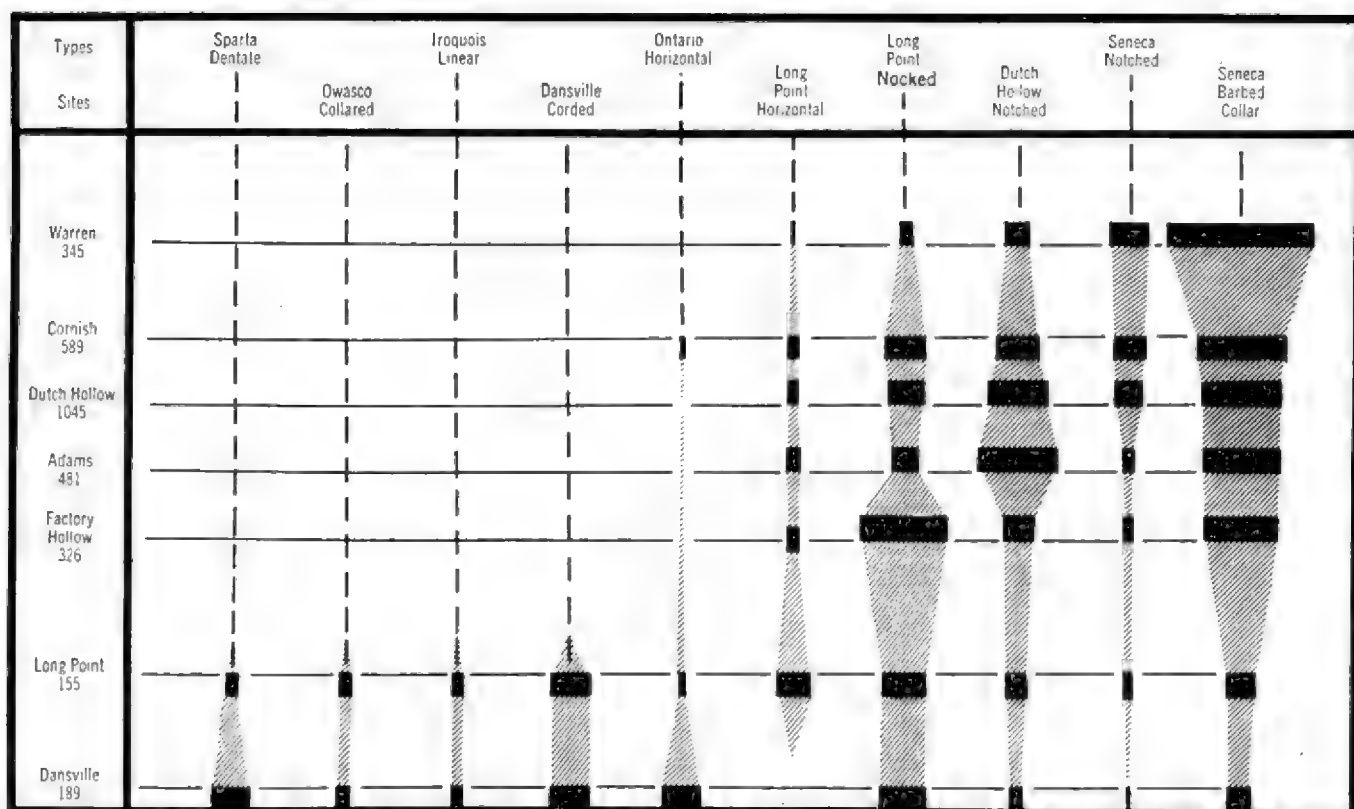


Figure 13. A graph of the seriation of Seneca pottery types.

been unable to uncover sufficient materials to substantiate a second line of development. The lack of Richmond Mills diagnostic traits, such as harpoons, bone beamers, sleeve-ended antler flakers, awls or round-ended needles with a perforated base, antler projectile points, square-topped pipes or pipes with faces enclosed in helmets, in any of the numerous collections from any historic Seneca site casts serious doubt on such a second development. To me the aberrant Cayuga sherds (as well as the other aberrant sherds) indicate a strong Seneca tie with, and borrowing (not necessarily amicably) from, the Cayuga, and an early pre-League tradition of supplementing their tribe with aliens, a custom which, at a later time in the League's ascendancy, spread to the other members of the Confederation.

Generally speaking, the seriation, the linking of site, the documentation, and the early development leave much to be desired. In spite of the adequate samples from part of the series, much work needs to be done, and the sequence is only vaguely indicated by the data at present available.

Seneca Barbed Collar (Plate XIII)

Paste: Temper is grit of medium size and in large amounts.

Texture: Sherds are flaky and have an irregular, rough surface, due in part to temper materials and in part to poor smoothing of the clay.

Colour: Surfaces are grey with exterior and interior surfaces dark.

Hardness: 2-5.

Surface Finish: Body surfaces of the vessels are smoothed, though it has been poorly done. One of the earlier pots has a cordmarked surface.

Decoration: The commonest decoration consists of one or two parallel horizontal incised lines on the upper collar above the basal barbs (Figure 27, No. 207). Only slightly less frequent than this decoration are undecorated collars (Figure 27, No. 209). The third

variety of decoration consists of oblique lines on the collar and occurs consistently at all sites but always in smaller numbers than the first two varieties (Figure 27, Nos. 199 and 201). There are besides these three major decorations a number of other motifs which in their total never outnumber the third variety mentioned above. As they are relatively unimportant, I shall merely list them.

1. Blank collars with notches at the junction of lip and rim (Figure 27, No. 212).
2. Horizontal lines on the upper collar with oblique lines (opposed or unopposed) on the lower collar and on the barbs (Figure 27, Nos. 204, 205, 206).
3. Collars with opposed bands of oblique lines (Figure 27, No. 203).
4. Collars with bands of opposed oblique lines that partly overlap, thereby leaving undecorated triangular areas (Figure 27, No. 211).
5. All the above motifs with notches along the collar barbs (Figure 27, Nos. 208, 210, 200, 202).

Shapes: Bodies are globular, while necks are short and slightly constricted. The collars are appliquéd, short in height (about 1 inch), and have at their base a series of oblique barbs, giving a saw-tooth effect. These often compose half the collar. They evidently are made by punching or cutting obliquely the wet appliquéd clay collar. In profile the collars show some variation; interiorly a few are channelled (Figure 24, Nos. 87 to 90, 95 to 98, and 103), many straight (Figure 24, Nos. 91 to 94, 97, 110), and some bulging (Figure 24, Nos. 83 to 86). Exteriorly many are straight or slightly concave (Figure 24, Nos. 83, 84, 89 to 91, 97), a few out-curved so that the basal barbs (Figure 24, Nos. 92 to 95) are almost horizontal, and a few are bulging (Figure 24, Nos. 86 to 88, 95). Vessels, generally speaking, are small. There are rarely castellations.

Diagnostic Features: The distinctive feature of the type is the short appliquéd collar with a barbed base.

Spatial Range: This type is confined to the region between the Genesee Valley and Seneca Lake, south of Rochester and north of Dansville, N.Y.

Temporal Range: This type occurs throughout Seneca history, reaching its zenith during historic times.

Relationships: The type evidently developed from Long Point Nocked. Genoa Barbed Collar, and Myer's Station Barbed Collar are probably off-shoots from it. The type (particularly its shape) is distinctive and diagnostic of the Seneca and evidently represents a tribal specialization.

Seneca Notched (Plate XIV)

Paste and Surface Finish: Same as Seneca Barbed Collar.

Decoration: Decoration consists of long vertical notches either at the bases of collars (Figure 27, No. 180) or at the top and base of collars (Figure 27, No. 144).

Shape: Bodies are globular, the short necks are slightly constricted, and collars are appliquéd. These collars are poorly moulded to the rim, though cross-sections resemble those of Seneca Barbed. One or two castellations appear rarely. These may be plain, but on two pots there are human faces under the castellation.

Diagnostic Feature: Short-collared pots decorated with long notches at their bases and with or without notches at the tops of the collars.

Temporal Feature: This type is a minority ware throughout Seneca history, reaching its peak during historic times.

Spatial Feature: Seneca area.

Relationships: This type is closely related to Long Point Nocked and Seneca Barbed. It has a similarity to Ripley Collared and Seed Incised.

Dutch Hollow Notched (Plate XV)

Paste and Surface Finish: Same as Seneca Barbed Collar.

Decoration: Decoration is virtually absent and consists only of notches on the rim adjacent to the lip or notches cutting the outer rim and lip (Figure 26, No. 145) or short gashes cutting the thickened rim-lip area (Figure 27, No. 177).

Shape: Bodies are globular, necks long and slightly constricted. Vessels are small. Rims are outflaring (Figure 24, Nos. 57 to 61) and often slightly thickened either by pressure on the flat of the lip (Figure 24, Nos. 70, 72) or by clay added to the lip and outer rim (Figure 24, Nos. 79, 80, 82). Vessels are small. There are no castellations.

Diagnostic Features: Distinguishing features of the type are the exteriorly notched rims of the thickened lips of plain jars.

Temporal Range: This type reaches its zenith in early historic times, though it extends back to earliest Seneca times.

Spatial Range: This type is common to the region surrounded by the Genesee Valley, Seneca Lake, Rochester, and Dansville. It appears in late Neutral sites and most of the Huron sites.

Relationships: Similar types in other Iroquois series are unknown (with the possible exception of Ripley Plain), and this type appears diagnostic of the Seneca. It may be derived from Canandaigua Plain.

Long Point Nocked (Plate XVI, figures 4 to 6)

Paste: Same as above.

Surface Finish: Usually smooth, but Dansville specimens are also cordmarked and check stamped.

Decoration: Most of these sherds are totally undecorated (Figure 27, No. 218), but some have one or two horizontal lines on the upper collar (Figure 27, No. 217). A few collars have only small nicks at the junction of the outer rim and lip (Figure 27, No. 219). These are slightly more prevalent in the early part of the series. A few of the late sherds have oblique lines on the collar (Figure 27, Nos. 213 to 216). At the base of collars, spaced about an inch apart, there are small triangular notches or nocks (about one-half inch high).

Shape: Bodies are globular and necks short and slightly constricted. Collars are appliquéd and of small height (1 to 1½ inches). Usually rim sections are Nos. 86, 87, or 97, of Figure 24. Vessels are larger than others previously mentioned. Small castellations appear rarely.

Diagnostic Features: Small vessels with collars of short height which have nocks round their base at about one-inch intervals.

Temporal Range: This type reaches its zenith at very late prehistoric or very early historic times and dies out during historic times. However, it evidently extends back considerably into prehistoric times.

Spatial Range: The type is most common around Dansville, N.Y., though it does have some extension northward and westward from that point.

Relationships: This type is probably ancestral to Seneca Barbed Collar and may have been derived from Ontario Horizontal or a more Owascoid type.

Long Point Horizontal (Plate XVI, figures 1 to 3)

Paste and Surface Finish: Same as previously mentioned.

Decoration: Three to five incised horizontal lines on the collar with small gashes at the base of the collar are the decorative motif (Figure 25, No. 78). Under castellations there is often a vertical band of three to five lines.

Shape: Bodies are round and necks short and slightly constricted. Collars are appliquéd strips about 1 to 1½ inches wide and are usually moulded into the rim underneath (Figure 24, Nos. 90, 91, 98). One or two castellations often appear, and these may have vertical appliquéd strips or conventionalized faces under them.

Diagnostic Features: Narrow appliquéd rims with horizontal incisions on them and short oblique or vertical elliptical notches or gashes at the base of the collars.

Temporal Features: This is a minority ware and appears in late prehistoric and historic times.

Spatial Features: Seneca area.

Relationships: This type is derived from Ontario Horizontal and is very closely related to Long Point Nocked. In fact, it may be the same type, except that the collars are more pronounced.

Ontario Horizontal. Previously described (See page 16).

Dansville Corded (Plate XVII, figure 6)

Paste: Same as previously described.

Surface Finish: Necks and collars appear to have been smoothed, but bodies usually have check stamping and cord marking.

Decoration: Decoration is made by impressions of a cord-wrapped paddle edge. The motifs consist of three horizontal lines on a collar with (Figure 25, No. 78) or without (Figure 25, No. 76) oblique short cord impressions at the base of the collar or above the horizontal lines (rarely) (Figure 26, No. 82). Under the one or two castellations there is a vertical or oblique band of three parallel lines that runs down the collar and neck to the shoulder (Figure 26, Nos. 83 to 86; Figure 27, No. 234).

Shape: Vessels are medium size with globular bodies, long necks, and well pronounced short collars (Figure 24, Nos. 31, 32, 68, 103, or 109).

Diagnostic Features: Horizontal bands of cord-wrapped stick impressions on well-pronounced short collars of globular bodied vessels.

Temporal Range: Late prehistoric times.

Geographical Range: Western New York.

Relationships: The type may well be ancestral to Dansville Horizontal and is no doubt derived from the Sackett Farm variant of Owasco Corded Collar type.

Iroquois Linear. Previously described (*See* page 18).

Sparta Dentate (Plate XVII, figures 1, 2)

Paste and Surface Finish: Same as Sparta Corded.

Decoration: Decoration is made by ovoid or square dentate stamp impressions. The designs usually are three horizontal lines on the collar with short dentate impressions below the collar (Figure 25, No. 78). Often under the castellations is a band of three parallel lines running obliquely across the collar and down to the rim.

Shape: Sherds have globular bodies, slightly constricted necks, and incipient collars, like Dansville Corded. One or two castellations often appear.

Diagnostic Features: The type is distinguishable on the basis of a horizontal band of three lines of dentate stamp impressions on an incipient collar.

Temporal Range: Early and Middle Seneca.

Spatial Range: Dansville region.

Relationships: This is undoubtedly related to Uren Dentate and may have precedents in some Owasco culture.

Owasca Corded Collar; Sackett Site Variant

This type has been previously described, and on the basis of its occurrence in Long Point and Dansville it has temporal significance which justifies its being made a separate type.¹

¹ W. A. Ritchie and R. S. MacNeish: *Op. cit.*

SENECA ABERRANT SHERDS

The abundance of Cayuga sherds in seven Seneca sites makes for an easy correlation of the two series. Genoa Fort and Myer's Station, on the basis of Ithaca Linear, Genoa Frilled, and Myer's Notched, seem to be of the same time period as the Seneca sequence from Factory Hollow to the Warren site. Long Point, on the basis of Richmond Incised and Cayuga Horizontal, appears equated with Belcher and Richmond Mills of the Cayuga series, while Dansville Flats seems to fall somewhere between the Hummel and Woodley sites of the Cayuga series.

The Huron Orr Lake and Warminster components seem to be roughly contemporary with historic Seneca sites. Most of the Huron sherds have been found at the Warren site, but this fact may be a reflection of the influx of captives into the Seneca area after the destruction of Huronia in 1649 and may indicate that the Warren site is after that date.

Erie sherds of the types found at the historic Ripley and 28th Street sites appear mainly in our early historic sites and are dominant at Dutch Hollow. Neutral sherds appear at about the same time period, and only the latest Neutral types are represented. Onondaga-Oneida sherds occur at all sites of the historic period.

Fort Ancient sherds are not found in any of the sites mentioned here, but pots of Madisonville Corded have been found at Dann, Boughton Hill, and Marsh, all late well-documented sites.

On the earliest site of our series, Dansville Flats, were three huge shell-tempered, cordmarked pots that resemble those found in the Whittlesey and McFatte sites.

Table V

Distribution of Seneca Aberrant Sherds

Types	Warren	Cornish	Dutch Hollow	Adams	Factory Hollow	Long Point	Dansville
Ithaca Linear.....	—	—	100	20	23	—	—
Myer's Notched.....	—	20	20	—	40	—	—
Genoa Frilled.....	40	3	100	—	—	—	—
Richmond Mills Incised.....	20	6	47	300	4	43	—
Cayuga Incised.....	20	22	5	20	3	35	6
Hummel Corded.....	—	—	—	—	—	—	20
Cayuga Blank.....	—	20	—	20	—	10	—
Warminster Crossed.....	40	—	—	—	—	—	—
Sidey Notched.....	3	—	—	—	—	—	—
Huron Incised.....	3	—	20	—	—	1	—
Ripley Collared.....	—	—	20	—	—	—	—
Niagara Collared.....	1	—	120	20	20	8	7
Ripley Plain.....	—	15	40	20	40	—	—
Ripley Incised.....	—	—	40	20	—	—	—
Ripley Corded.....	20	—	22	20	—	—	—
Lawson Opposed.....	—	2	60	20	—	—	—
Lawson Incised.....	—	14	20	60	20	6	—
Roebuck Low Collar.....	—	1	—	1	1	—	—
—	—	1	—	20	—	—	—
—	46	—	—	40	2	—	—
Otstungo Incised.....	—	—	20	40	—	—	—
Whittlesey Corded.....	—	—	—	—	—	—	60

CHAPTER VI

CAYUGA POTTERY TYPES

GENERAL

Materials from well-documented Cayuga sites are rare. The few sherds I have seen from the Great Gully site, dated at 1650-87, are quite similar to those from Genoa Fort. The Genoa Fort site has early historic goods in association with aboriginal goods and is in the centre of the historic Cayuga area.¹ Because of its similarity to documented sites, its time period, and its geographical position, I have assumed it is a historic Cayuga site. Closely connected with Genoa Fort is the Myer's Station site,² which has historic goods of a slightly earlier type. Unfortunately, a large sample of materials from this site was not available to me; consequently the ceramic trends in historic times are not on a firm footing. The prehistoric site most similar to the "historic" Cayuga sites is Richmond Mills.³ The linkage is not too good because of an inadequate sample from this site. Perhaps materials from prehistoric sites just south of the historic sites (such as the Locke site) might provide a better nexus. The sequence of Woodley⁴ to Belcher⁵ to Richmond Mills looks better, but again the samples are small. Connecting rather poorly with the Woodley site is the Bristol site.⁶ I believe there is considerable time separating the two. The real importance of the Bristol site and my reason for including it in this series is its transitional nature. Ceramically, the site is really closer to the Sackett Farm type⁷ of material than it is to the Woodley site. (Incidentally, a comparison of the pipes reveals exactly the opposite relationship. Bristol pipes are closer to Woodley than to Sackett Farm.)

In summary, it would appear that we have a tenuous sequence from the historic Cayuga back into the Owasco, Sackett Farm type of materials. A plotting of site distributions indicates that the earlier "Cayuga," when they had a Sackett Farm type of culture, lived west of Canandaigua Lake. Gradually a shift southward took place at the time when they had a Richmond Mills type of culture, and this was followed by a movement eastward round Cayuga Lake during very late prehistoric, and then northward during historic, times.

Inadequate samples from the sites, as well as obvious gaps in the sequence, make this development and tribal movement a hypothetical

¹I hereby acknowledge the kindness of Mr. M. Cramer and the Cayuga County Historical Society of Auburn, N.Y.; Rochester Museum; Mr. J. Quinlan of Dansville, N.Y.; St. Bernard's Seminary of Rochester, N.Y.; Mr. Thurston of Oneida, N.Y.; Mr. C. Warder, Mr. Farwell, and Mr. Phillips, of Geneva, N.Y.; Mr. J. Ward of Cayuga, N.Y.; Mr. H. Bigford of Earlville, N.Y.; Mr. Harry Schoff of West Bloomfield, N.Y.; and the New York State Historical Society of Cooperstown, N.Y., who so generously allowed me to study their collections from this site.

²I should like to thank Mr. M. Cramer of Auburn, N.Y., for allowing me to study his materials from this site.

³I am indebted to Dr. Ritchie of the Albany Museum and to Joseph Quinlan of Dansville, N.Y., for allowing me to examine their materials from Richmond Mills.

⁴I am indebted to Mr. H. Farwell of Geneva, N.Y., for permitting me to study his materials from the Woodley site.

⁵Rochester Museum, J. Quinlan, and Mr. Clair Carpenter of Canandaigua, N.Y., are to be thanked for the use of their materials.

⁶I should like to thank Mr. Harry Schoff of West Bloomfield for showing me the site, for allowing me to study his materials from it, and for assisting in its excavation.

⁷W. A. Ritchie: "A Prehistoric Fortified Village Site at Canandaigua, Ontario County, New York." Research Records, No. 3, Rochester Museum of Arts and Science, Rochester, N.Y.

Types	Owasco Oblique	Owasco Collared	Hummel Corded	Bristol Linear	Cayuga Horizontal	Richmond Incised	Genoa Frilled	Myers Barbed	Ithaca Linear
Sites									
Genoa Fort 325					12 .04	120 .37	72 .22	72 .22	49 .15
Myer's Sta. 180					40 .22	60 .33	20 .11	40 .22	20 .11
Richmond Mills 196					40 .21	142 .72	14 .07		
Belcher 369					122 .33	247 .67			
Woodley 152			1 .01	11 07	103 .68	38 .25			
Hummel 103	3 .03	65 .65	13 .13	15 .15	6 .06	1 .01			

Figure 14. The seriation of Cayuga Pottery types in terms of numbers of sherds and percentiles.

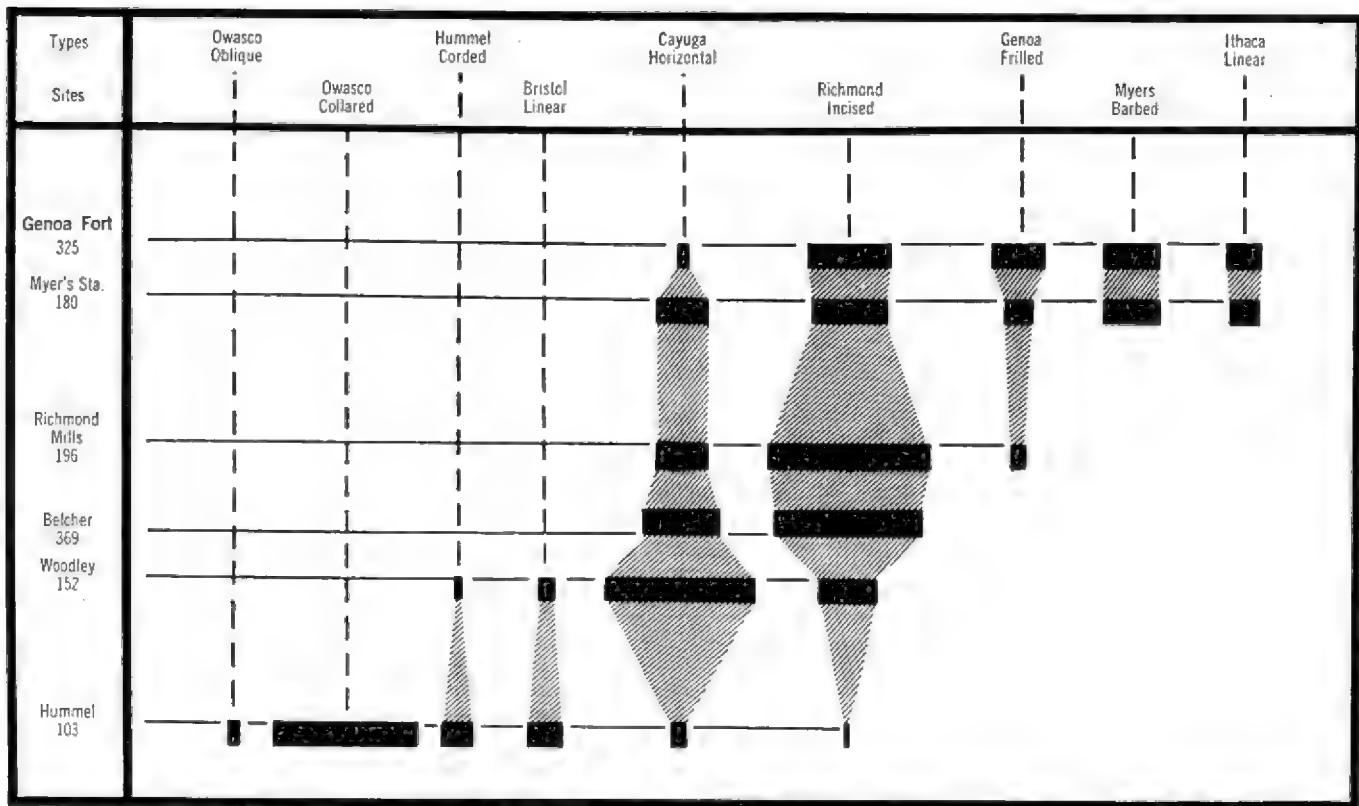


Figure 15. A graph of the seriation of Cayuga Pottery types.

one. As will be shown in a later publication, seriation of pipe types and trait comparisons tend to confirm this historical reconstruction. Nevertheless, further research is imperative before any conclusion can be reached.

Myer's Barbed Collar (Plate XVIII)

Paste and Surface Finish: Same as previously described.

Decoration: Most of the sherds have opposed triangles filled with parallel incised lines on the lower rim, with one or two horizontal lines round the upper rim. The base of collar may have short nicks (Figure 27, No. 221). Slightly less than half are undecorated and may or may not have nicks only on the collar barbs (See Figure 27, No. 220).

Shape: Bodies are globular, necks slightly constricted, and collars are high ($2\frac{1}{2}$ to 3 inches) (Figure 24, Nos. 36, 37, 34, 50, 47). The bases of the collars are notched with one side of the protruding notch vertical, while the longer side slopes at 30 degrees from the horizontal. The notches have evidently been made by cutting the collar with an implement having a cross-section in the form of a right-angled triangle.

Diagnostic Feature: High collars with basal barbs.

Temporal Range: Early historic.

Geographical Range: Cayuga County.

Relationships: This type may be distantly related to Richmond Incised and Seneca Barbed Collar.

Ithaca Linear (Plate XIX)

Paste and Surface Finish: Same as previously described.

Decoration: The high collars bear incised lines as well as decorations made by pressing a rectangular or elliptical punch (one-half

inch long and one-quarter inch wide) into the soft clay. A vertical band of four to seven parallel lines is usually under the castellations. Slanting down from the castellation on both sides of the horizontal lines is a band of four to seven parallel, oblique incised lines. The bases of these bands meet the other oblique bands extending down from the other castellations at the base of the collar. In the triangle between the bands of incised lines, there are parallel horizontal rows composed of elliptical or rectangular punch marks whose ends touch, or almost touch, one another. There may or may not be a band of vertical gashes at the base of the collar (Figure 27, Nos. 181 to 186).

Shape: Bodies are globular, and slightly constricted necks occur at the junction of the collars and body. The collars are extremely high, from 3 to 7 inches, only slightly thickened and usually slightly outflaring (Figure 24, Nos. 48, 49, 51, 52, 53, 54, 55, 56). Often the collars are equal in height to the body. Two or four castellations usually appear at the tops of the collars.

Diagnostic Features: Large elliptical punch decoration on extremely high incipient collars.

Temporal Range: This type has not been found on prehistoric sites and seems to be confined to the historic period.

Spatial Range: This is a prevalent type in lower Susquehannah River drainage and occurs in the Cayuga area. Occasional trade pots of this type are found in historic Seneca sites.

Relationships: A few sherds from Long Point might possibly be ancestral to this type and be prototypes, but no site producing them in any amount is known. My guess would be that this type developed in the Susquehannah area and spread northward to the Cayuga area.

Genoa Frilled (Plate XX)

Paste and Surface Finish: Same as previously described.

Decoration: There is considerable range in decoration, though most pots of this type are undecorated (Figure 27, No. 187). The most common decorations are horizontal incised lines on the upper part of the collar with oblique lines below (Figure 27, Nos. 194 and 195). Other decorations that occur (in the order of their frequency) are: (1) Plain collars with nicks on the crenelated part of the collar; (2) A horizontal band of vertical gashes on the middle of the collar (Figure 27, No. 188); (3) Horizontal lines on the collar (Figure 27, No. 196); (4) Vertical lines on the top of the collar above horizontal lines (Figure 27, No. 193); (5) Oblique lines (Figure 27, Nos. 190, 191, 197, and 198); (6) Oblique lines with punctates at the top of the collar (Figure 27, No. 189); (7) Two sets of oblique lines that cross each other (Figure 27, No. 192).

Shape: Vessels are large with globular body, a slightly constricted neck, and a short collar. The base of the collar is crenelated or frilled, and the crenelations are equi-sided. They point straight downward. Many of the frills flare out slightly from the collar

(Figure 24, Nos. 92, 93, 94, 98). The crenelations often appear to be pieces of clay in the shape of equilateral triangles (1 inch bases) that have been welded to the base of a collar (Figure 24, Nos. 94, 97, 84, 87, 88). However, most often the bottom of the collar seems to have had A-shaped sections cut from it. Castellations do not appear on this type.

Diagnostic Features: Crenelated or frilled short collars.

Temporal Significance: A historic Cayuga type found at the early historic Genoa Fort and Myer's Station sites; it appears at the Great Gully site of 1690, as well as at Richmond Mills.

Geographical Range: Confined mainly to the area around Seneca and Cayuga Lakes, though it is present in historic Huron sites.

Relationships: This type has no antecedent in the Cayuga series, and its ancestral or developmental predecessor is unknown. It may represent a Cayuga adaptation of Seneca Barbed Collar at about Richmond Mills times.

Richmond Incised (Plate XXI)

Paste and Surface Finish: Same as previously mentioned.

Decoration: The decorations were done by incising. The commonest form of decoration was oblique or vertical lines either alone (Figure 25, Nos. 3, 12, 21) or in opposed triangles (Figure 25, Nos. 30 or 39) with notches at the base of the collar. Rarely these designs have one or two horizontal lines round the uppermost part of the collar (Figure 25, Nos. 46, 49, 52, 55, 58, 73, and Figure 26, No. 119), and occasionally the notches at the base of the collar are missing (Figure 25, Nos. 48, 51, 54, 57, 60). Very rarely there are notches at both the bottom and top of collars (Figure 25, Nos. 5, 14, 23, 32). Under the castellations there may be bands of four to six vertical lines which in turn are associated with the various other motifs mentioned above (Figure 25, Nos. 68, 72).

Shape: Bodies are globular, necks short and constricted (often being the junction of body and collar), while collars are high ($2\frac{1}{2}$ to $3\frac{1}{2}$ inches). The collars are not sharply differentiated from the rims and are often slightly channelled (Figure 24, Nos. 33, 43, 98, 49, 50, 40, 41, 42, 34, to 39, 44 to 47). Often under the two or four castellations will be found vertical (one-half inch) strips of clay with circular shallow punctates or crenelations on them.

Diagnostic Features: High incipient collars with incised vertical or oblique designs.

Temporal Range: This type occurs throughout much of Cayuga history and prehistory, reaching its greatest frequency in late prehistoric time.

Geographical Range: The type is found throughout the Cayuga, Susquehannah, and southern Seneca areas in some abundance. The type occurs spasmodically in historic Seneca sites and probably is a trade ware in them, though it is quite abundant in the Adams and Steele sites.

Relationships: This type evidently grew out of the earlier Cayuga Horizontal and, ultimately, from Bristol Corded. It is closely related to Otstungo and Wagoner Incised types in the Mohawk and Onondaga-Oneida area.

Cayuga Horizontal (Plate XXII, figures 3, 4, and 5)

Paste and Surface Finish: Same as previously mentioned.

Decoration: The commonest form of decoration on the early sites consists of horizontal lines with notches at the top and bottom of the collar (Figure 25, No. 80). In historic sites this motif is secondary to another kind of design. The later design consists of horizontal lines which are cut at wide intervals by an oblique band of three or four parallel incisions. Round notches appear at the bases of the collars (Figure 26, Nos. 88, 91, 92). Other designs that occur are horizontal lines without any notches (Figure 25, No. 76), horizontal lines with notches at the base of the collar only (Figure 25, Nos. 78, 79), and horizontal lines that have a band of vertical lines crossing them (usually under a castellation (Figure 26, No. 83).

Shape: The shape is identical with Richmond Incised.

Diagnostic Features: High incipient collars decorated by horizontal line motifs.

Temporal Range: This type appears throughout Cayuga history, being dominant in the earlier stages.

Geographical Range: Same as Richmond Incised.

Relationships: This type no doubt developed from Bristol Corded or a similar Owascoïd type. It is again closely related to Fonda Incised and similar types in Seneca and Neutral sequences.

Bristol Linear (Plate XXII, figures 1 and 2)

Paste: Same as Richmond Incised.

Surface Finish: Is probably smooth, though check stamping might appear on the surfaces.

Decorations: Decoration consists of short overlapping linear punches forming horizontal lines on the collar. There may be three to five lines on the collar with a tendency in the earlier materials to have three, while later examples may have more (Figure 25, Nos. 76, 79, 81). Under the castellations, in the earlier forms, is a band of two to four oblique lines that cross the collar and continue down the neck to the shoulder (Figure 26, Nos. 83, 84, 85, 86, 88). Gashes may appear on the lower part of the collar.

Shape: Bodies are globular, necks long and slightly constricted, with medium height incipient collars that outflare slightly (See Figure 24, Nos. 31, 32, 35, 40 to 44, 24 to 27).

Diagnostic Feature: Lines of horizontal overlapping punches on medium height collars.

Temporal Range: Early Cayuga.

Geographical Range: Found north, west, and south of Seneca Lake.

Relationships: This probably develops from Owasco Corded Collar, Sackett Variant, and gives rise to Cayuga Horizontal. It is obviously related to Iroquois Linear.

Hummel Corded (Plate XXII, figure 6)

Paste: Same as previously described under Richmond Incised, though it is a little flakier, consistency slightly poorer, and hardness around 2.5.

Surface Finish: Often check stamped, though bodies may also be smooth or cord marked.

Decoration: Decoration was made with the edge of a cordwrapped paddle or cordwrapped stick. The designs most commonly are horizontal lines with (Figure 25, Nos. 76, 78, 79, 80) or without basal notches. Under the low castellations a vertical band or oblique band may cross the horizontal lines and continue on down the neck (Figure 26, Nos. 82, 84 to 86, 89). There also may be oblique cordwrapped stick impressions on the shoulders.

Shape: Bodies are globular to elongated, globular necks slightly constricted, and collars incipient and of medium height (Figure 24, Nos. 30 to 33, 20, 26), while a few seem to be rather high (Figure 24, Nos. 40 to 44).

Diagnostic Features: Cordwrapped stick impressions arranged in designs characterized by horizontal lines on the collar, broken by oblique bands of three or four vertical lines under the castellations on poorly defined collars of medium height.

Geographical Range: The general area from Geneva to Dansville, New York.

Temporal Range: This type is in the early part of the Cayuga series.

Relationship: This type derived from the Sackett Farm Variant of Owasco Corded Collar type. It is probably ancestral to Cayuga Horizontal and Bristol Linear. It is undoubtedly related to Oak Hill Corded, Lanorie Corded, and Uren Corded.

CAYUGA ABERRANT SHERDS

In the historic sites, late Seneca types, such as Seneca Notched, Dutch Hollow Notched, and Seneca Barbed Collar, are common, though one sherd of Lawson Incised occurred at the Genoa Fort site and Ripley Plain sherds are present at both sites.

On the Richmond Hill site, one sherd of Otstungo Notched and the Seneca types, Seneca Barbed Collar and Dutch Hollow Notched, occur. At Belcher two sherds of Dutch Hollow Notched and the Neutral types, Lawson Incised, Lawson Opposed, and Ontario Horizontal, were found.

The above aberrant sherds would appear to indicate that the Cayuga series from Belcher to Genoa Fort is roughly contemporaneous with the Seneca series after Long Point, the Neutral series after Middleport or Pound, and the late part of the Mohawk series.

The Woodley site with Dutch Hollow Notched, Ontario Horizontal, Iroquois Linear, and Onondaga Triangular appears to be roughly con-

temporaneous with Dansville Flats of the Seneca Series and Middleport of the Neutral Series. The Bristol site has insufficient aberrant material to tie it in with other series specifically, though, generally speaking, it appears to be very early.

Table VI

Distribution of Cayuga Aberrant Sherds

Types	Genoa Fort	Myer's Station	Rich- mond Hill	Belcher	Wood- ley	Hum- mel	
Seneca Barbed Collar}.....	2	20	3	.....	.....	.....	Seneca
Seneca Notched.....	24	20	.....	.....	.....	.....
Dutch Hollow Notched .....	.....	20	1	2	3	.....
Ripley Plain.....	2	20	.....	.....	.....	.....	Erie Neutral
Lawson Opposed.....	.....	.....	.....	1	.....	.....	Neutral
Lawson Incised.....	1	.....	.....	2	.....	.....
Ontario Horizontal.....	.....	.....	.....	10	8	.....
Otstungo Notched.....	.....	.....	1	.....	.....	.....	Mohawk
Onondaga Triangular....	.....	.....	.....	.....	2	.....	Onondaga- Oneida
Iroquois Linear.....	.....	.....	.....	.....	2	4	

CHAPTER VII

SUSQUEHANNAH POTTERY

In my survey it was not possible to examine large collections from historic Susquehannah sites or from prehistoric sites in that general area. I was, however, fortunate in seeing photographs of materials from that region made by John Witthoft, as well as in discussing the pottery types and sequence with him. In the future he will no doubt provide us with ceramic types and a sequence for that area based upon his analysis.

For the present I shall summarize the conclusions of our discussions and leave the actual illustrations and proof of the statements to Witthoft. Generally speaking, the Cayuga and Susquehannah pottery types and cultural development are extremely similar. The dominant pottery on historic sites includes forms closely resembling Ithaca Linear but with an even higher collar; another type is close to Genoa Frilled, and the rest resemble Richmond Incised and Cayuga Horizontal. On prehistoric sites the last two types are dominant, and at an even earlier time, sherds resembling Bristol Corded and Owasco Corded Collar are found. The early sites of the sequence are in northernmost Pennsylvania and New York along the Susquehannah, and there appears to have been a shift down river into central Pennsylvania in late prehistoric and historic times.

CHAPTER VIII

ONONDAGA POTTERY TYPES

GENERAL

The number of sites from which adequate samples of sherds are available is, unfortunately, very small, and the seriations of pottery types are not on so firm a foundation as I should like. The lack of materials from this area is particularly surprising in the light of the great number of sites recorded, the abundance of materials mentioned as coming from them, and the many small series of sherds I was able to see from a large number of sites. The causes and reasons for this unfortunate lack, as well as the wholesale destruction of sites, are well known. Situations such as this emphasize the value of laws concerning antiquities, the possible pitfalls of unguided wanton amateur archæologists, the harm done by the commercial dealer in "Indian relics," and the inadequacies of local museums in the hands of untrained and uninterested individuals.

The only historic site with sufficient available sherds was the Lawrence Farm near Pompey Center, Onondaga County, New York.¹ Beauchamp believed this site to be Onondaga of about 1640. Smaller samples from other historic Onondaga sites, such as Indian Hill, Baldwinsville, and Jameston, were seen and had the same kinds of sherds, but the smallness of the sample kept me from using them in the study.² Connecting with the Pompey Center site are the Roebuck³ and Durfee⁴ sites with adequate samples. Evidently Atwell Fort, Nichols Pond, Sandy Creek, the site called Hochelaga in Montreal, Dry Hill, and many sites around Watertown are of this general time period. In terms of the seriation, the Caen⁵ and Swarthout sites,⁶ with very poor samples, and the Lanoric site,⁷ with a good sample, precede Roebuck and Durfee. The materials illustrated in Skinner's report from the Putman site⁸ are evidently of about the same time period. (The materials that Skinner photographed appear to have vanished as industrious searching and questioning did not uncover them.) The earliest part of the sequence is even worse, if possible, than the part discussed above, as I have a small sample only from the Ivey site.⁹ However, this small sample from Ivey and the large one from Lanoric have a definite Owascoid tinge and hint at an Owascoid ancestry. The materials from the Calkins Farm¹⁰ and the Pillar Point¹¹

¹ The late Mr. Haberle of Syracuse, N. Y., was most co-operative in allowing me to see his materials from this site.

² Ibid.

³ W. J. Wintemberg: "Roebuck Prehistoric Village Site, Grenville County, Ontario." National Museum of Canada, Bull. 83, 1936.

⁴ I should like to thank Dr. Scott of the Peabody Museum of Harvard for allowing me to examine the material exhumed by Mr. R. Harrington.

⁵ I should like to thank Mr. Caen and Mr. Williams of Adams, N. Y., for allowing me to examine their materials from this site.

⁶ Mr. J. Carter of Clayton, N. Y., was most kind in allowing me to examine his collection from the Swarthout site near the village of St. Lawrence on Wolfe Island.

⁷ Mr. W. J. Wintemberg collected and dug on the Lanoric site for the National Museum of Canada, and those materials are now here.

⁸ J. A. Skinner: "Notes on Iroquois Archæology. Indian Notes and Monographs." Miscellaneous, No. 18, Museum of the American Indian. Heye Foundation, New York, 1921.

⁹ Mr. R. Snyder of Sandy Creek gave me materials from this site.

¹⁰ These materials are in the collection of J. Worden of Geneva, N. Y.

¹¹ Ritchie, 1940.

sites may prove to be that Owascoïd ancestor because of the general designs and the persistence of the dentate stamp technique of decoration. However, a lot more evidence is necessary before the point is proved.

The meagre data seem to indicate that the original Onondaga developed their culture in the area of Watertown, N.Y. Gradually this early culture spread from Watertown up the St. Lawrence almost to the city of Quebec. Just before historic times there was also a general movement down toward Syracuse, as well as toward Picton, Ont. However, after the time of Cartier there appears to have been a rapid shift southward and a population concentration in Oswego, Oneida, Madison, and Onondaga counties of central New York.

On the basis of our present knowledge, historic Onondaga sherds (and therefore prehistoric ones) are indistinguishable from those of historic (and prehistoric) Oneida sites. This is equally true of most of the other artifacts. Perhaps with more data from documented historic sites, percentile differences in the pottery types may be found between Oneida and Onondaga. Because of the identity of types, Ivey, Lanorie, Swarthout, Caen, Durfee, and Roebuck could just as well be Oneida as Onondaga, and, therefore, I have referred to this development as Onondaga-Oneida in most of the text. The Onondaga-Oneida similarity of material culture does not appear to be parallel to the linguistic, social, and political relationships of the two. It certainly poses a problem worthy of intensive investigation, both archæologically and ethnologically.

In terms of ceramic relationships, the Onondaga-Oneida series shows the greatest overlapping of types with the Mohawk. The short-collared types also point to affiliation with Huron, Neutral, and Erie, while some of the collar designs show similarities to the Cayuga. All in all, the range of designs, technique of decoration, and vessel shapes of the Onondaga-Oneida at any time period is far greater than that of any other Iroquois pottery evolution at any time. Hypothetically, the Onondaga-Oneida could well be the centre whence the distinctive Iroquoian ceramic concept diffused to the other Iroquois-speaking groups. Other culture concepts, such as the effigy elbow pipes, are certainly earlier in the Onondaga-Oneida series and were introduced to the smoking complexes of the other groups. However, final proof of such a hypothesis must await more exact means of dating the sites in the respective series.

Otstungo, Cayadutta, and Chance Incised Types

Same as described later with the exception that on late prehistoric types in the Onondaga-Oneida series there are sometimes modelled faces or conventionalized faces of three circles below the castellations on the collars.

Otstungo Notched

It appears but rarely. Described in the final section on types.

Fonda Incised

This also appears, the only difference from those in the Mohawk series being that on historic Oneida and Onondaga sites human figure effigies occur under the castellations.

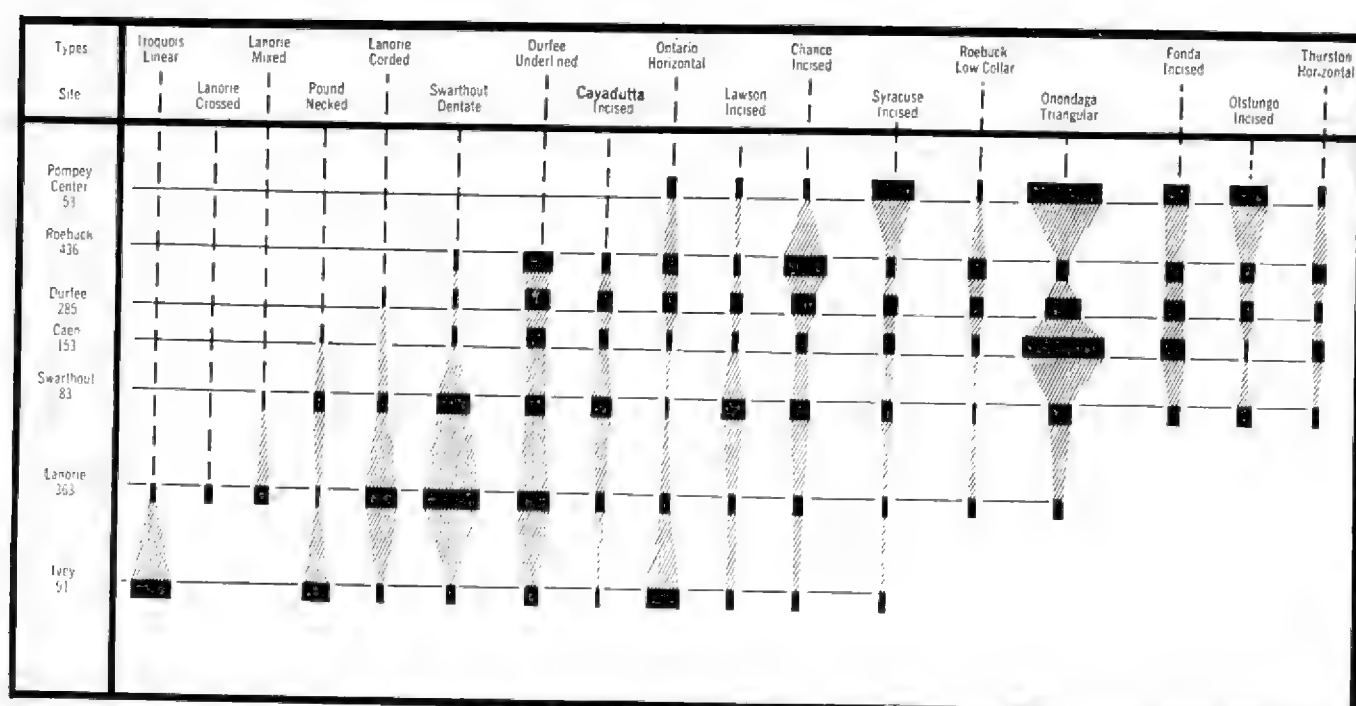


Figure 17. A graph of the seriation of Onondaga Pottery types.

Thurston Horizontal

Described under Oneida pottery types.

Syracuse Incised (Plate XXIII, figures 5 to 8)

Paste:

Temper: The temper is grit of small size in medium amounts.

Paste: The paste is well knit, with a slight tendency to be flaky.

Colour: The interior of sherds tends to be darker than the surfaces, but the contrast is not marked.

Hardness: 2-5.

Surface Finish: Smooth.

Decorations: Decorations consist of oblique lines on opposed triangles filled with oblique lines on the collar (Figure 25, Nos. 1, 10, 19, 28, 37, 44, 41). There is no notching below the collars or marking on the upper surface of the collar. Possible variants of this type are sherds decorated in the same designs but with punctate impressions above and below (Figure 25, Nos. 5, 14, 23, 32) the collars or punctates on the top parts of the collars (Figure 25, Nos. 7, 16, 25, 34).

Shape: Collars are of medium height, rather thin, and well marked (Figure 24, Nos. 3, 4, 6, 7, 10, 12, 15, 16, 22).

Diagnostic Features: Oblique line decorations on medium height collars.

Temporal Range: A type reaching its greatest use in historic times though occurring earlier.

Spatial Range: Oneida and Onondaga and St. Lawrence area.

Relationships: This type is closely related to the Wagoner Hollow Incised type. It probably was derived from some early Owaseo type, such as Owaseo Corded Collar.

Onondaga Triangular (Plate XXIV)

Paste and Surface Finish: Same as previously described.

Decorations: The decoration is on the collar. It consists of opposed right-angled triangles filled with parallel lines (Figure 26, Nos. 118 to 121). Above the triangles will be a single or double horizontal line separated from the lip by a band of short (one-quarter to one-half inch high) vertical impressions. Late variants of this usually have oval notches at the base of the collar, while early ones may lack them. Another variant of the type has a line of circular impressions along the hypotenuse of the right-angled triangles (Figure 26, No. 122). This occurs mainly at Caen and Roebuck along with another variant which has a series of vertical gashes between two of the parallel lines in each triangle (Figure 25, No. 67). Rarely right-angled undecorated triangles outlined with incised lines occur (Figure 26, Nos. 124 to 127).

Shape: Collars are usually of medium height with two or four castellations (Figure 24, Nos. 2, 34, 19, 10, 16, 15, 12, 13, 14).

Diagnostic Features: Decorations consist of right-angled triangles filled with parallel lines under a single horizontal line on medium height collars.

Temporal Range: This type appears throughout this series except in its earlier part. It however reaches its greatest frequency at about the middle (Caen site).

Geographical Range: Onondaga-Oneida country and upper St. Lawrence. It also appears as trade pieces on the historic Mohawk Wagoner Hollow site, as well as on the prehistoric Huron Seed site.

Relationships: This is a basic Onondaga-Oneida type and evidently arose from Ivey Corded types of similar design.

Durfee Underlined (Plate XXV, figures 6 to 10)

Paste and Surface Finish: Same as previously described.

Decoration: Near the top of the collars and also at the base of them will be one or two horizontal lines. Between these horizontal lines are various decorations. There may be oblique lines (Figure 26, Nos. 104 to 107), opposed isosceles triangles (Figure 26, Nos. 109 to 111), or opposed right-angled triangles filled with parallel lines (Figure 26, No. 116), or either of the last two decorations with a band of short gashes between two of the parallel lines in each triangle (Figure 26, Nos. 112, 113). There may also be undecorated triangles outlined by incised lines with or without gashes paralleling the edges of the triangles (Figure 26, Nos. 114, 115, 117). Notches appear at the base of the collars on late types but not in the earlier varieties. Under the castellations on earlier types are hollow reed punctates, while on sherds of this type from later sites modelled effigy faces or figures appear.

Shape: Well-defined collars of medium height (Figure 24, Nos. 4, 6, 7, and 16 are most common, but any of the designs from 1 to 20 may occur), with two to six castellations. Constricted necks and globular bodies.

Diagnostic Features: Decoration of oblique-line designs between two horizontal lines on a collar of medium height.

Temporal Range: Appears mainly in prehistoric times.

Spatial Range: Same as previous type.

Relationship: This type is evidently distinctive of Oneida and Onondaga and arises from corded decorations of similar design found in Lanorie Corded.

Roebuck Low Collar (Plate XXV, figures 1, 2, 3, and 5)

Paste and Surface Finish: Same as previously described.

Decoration: There are a number of varieties of incised designs on the collar. The most common designs are oblique lines on the lower half of the collar with one or two horizontal lines at the top of it (Figure 25, Nos. 48, 51, 54). Often these oblique lines form opposed triangles, either isosceles (Figure 25, No. 57) or right-angled (Figure 26, No. 121). Less frequently there are notches at the base of the collar (Figure 25, Nos. 55, 52, 46, 49, and Figure 26, No. 119). On many sherds of this type there are oblique lines composing right-angled triangles but without a horizontal line at the top of the collar (Figure 25, No. 37). These short collars also may bear the designs common to Durfee Underlined (Figure 26, Nos. 104 to 107, 109 to 117). Occasionally triangular designs appear on the neck (Figure 27, Nos. 239, 240) and on the shoulder. A very few sherds have loop handles under the castellations, and some have three hollow reed (or bone) punctates under the one or two pointed castellations.

Shape: Bodies are globular and necks constricted. Collars are short and well defined and have channelled interiors (Figure 24, Nos. 21, 22, 23, 25, 27, 97, 98, 99, 100, 101, 104).

Diagnostic Features: Short collars with a channel having oblique incised designs of the kind common to Chance Incised, Otstungo Incised, or Durfee Underlined.

Temporal Range: This type occurs in the late part of Onondaga-Oneida prehistory, being dominant in the late prehistoric stages.

Geographical Range: Same as previous type.

Relationship: The type is related to late Neutral (short collar) and Mohawk types (design). It is probably derived from Lanorie Corded or some earlier Owasco variety.

Swarthout Dentate (Plate XXVI; Plate XXVII, figures 5 to 8)

Paste and Surface Finish: Same as previously described.

Decoration: The decoration of this type is made by a toothed object, perhaps a notched disk, notched roulette, the notched edge of a

paddle, or a flat piece of bone. The marks have been called rectangular dentate impressions. The dentate stamp decoration is usually on the collar and rarely appears on the neck and shoulders. The designs made by the dentate stamping show considerable variations:

1. The commonest designs are identical with those of Durfee Underlined (Figure 26, Nos. 103 to 117). Many of these have three hollow reed punctates forming a conventionalized face under the castellations.
2. A second group bears designs similar to those of Chance, Otstungo, and Cayadutta Incised.
3. Oblique bands of four parallel lines of dentates on the collar with triangular areas undecorated and vessels having Onondaga Triangular designs also occur.
4. A fourth group of designs is quite similar to those of Roebuck Low Collar.

Shape: Bodies are globular and necks slightly constricted. Decorations of varieties 1, 2, and 3 (above) appear on collars of medium height (Most commonly Figure 24, Nos. 21 to 32, though Nos. 1 to 20 occur). Decorations of variety 4 appear on low collars (Figure 24, Nos. 95 to 104). When more material is available, these two differences in shape may be shown to have temporal or spatial significance and may be a reason for subdividing this type.

Diagnostic Features: Dentate stamp Onondaga-Oneida decorations on high or low collars having channels.

Temporal Range: This type does not reach historic times; it appears to be dominant during the time period of the Lanorie, Swarthout, and Putman sites.

Geographical Range: Frequent in the upper St. Lawrence area; it is found but rarely in Onondaga and Madison Counties of New York.

Relationship: Except for Uren Dentate and Dansville Dentate, this type of decoration does not appear on Iroquois pottery. It also appears later in the Onondaga-Oneida series than among any other group. It appears to have developed from Dentate Stamped sherds of similar designs on the Owascoid Calkins Farm site and ultimately perhaps from the Jack's Reef Dentate Collar type of Point Peninsula times.

Lanorie Corded (Plate XXVII, figures 1 to 4)

Paste and Surface Finish: Same as Ivey Linear.

Decoration: Decoration is made by pressing the edge of a cord-wrapped paddle or stick on the wet clay. Decoration appears on the neck, collar, and shoulder. On the shoulder it is oblique incisions or cord-wrapped stick impressions. The necks appear to bear oblique bands of incisions or lines of cord-wrapped stick impressions.

The collars bear a series of designs:

1. Decoration, the same as Onondaga Triangular.
2. Decoration, the same as Durfee Underlined.
3. Decoration, the same as Thurston Horizontal.
4. Decoration, same as Roebuck Low Collar.

Shape: Collars are of medium height, though a few approach low (1 inch) collars (most commonly Nos. 22 to 32 of Figure 24). The collars are well differentiated from the neck, and castellations (2 to 4) appear, though they are not sharply pointed.

Diagnostic Features: Design of Onondaga Triangular and Durfee Underlined made with a cord-wrapped stick; medium to low height collars.

Temporal Range: Early Onondaga-Oneida times.

Geographical Range: Mainly in Onondaga and Jefferson Counties, N.Y., and the St. Lawrence River area down to Montreal.

Relationships: This type is evidently ancestral to Onondaga Triangular, Durfee Underlined, and perhaps other types. It is in all probability derived from Owasco types. It bears many resemblances to Oak Hill Corded and the like.

Lanorie Mixed (Plate XXVIII, figures 6 to 8)

Paste: Same as previously mentioned.

Surface Finish: Many of these sherds are cord marked or check stamped; few are smooth.

Decoration: Sherds of this type are distinctive in that collar designs are usually made by combinations of at least two decorative techniques (i.e., dentate stamp and cordwrapped stick or dentate stamp and incising or cordwrapped stick and incising) and occasionally have designs made by the use of dentate stamps, cordwrapped paddle edge impressions, and incising. The most common variety is a combination of dentate stamping and impressions of the edge of a cordwrapped paddle edge. The cordwrapped stick impressions occur as oblique marks at the base and top of the collars, while the main part of the design in the middle of the collar is made by dentate stamping. The designs in dentate stamping are most commonly opposed right-angled triangles (Figure 26, Nos. 118 to 121), though two horizontal rows of opposed triangles separated by from one to four lines through the middle of the collar are common (Figure 26, No. 111). Rarely, oblique lines under a horizontal line appear (Figure 25, Nos. 46, 49). The combination next in frequency is dentate stamping and incising. Here the incising is often at the top of the collars, in one to four horizontal lines. Under the horizontal lines are oblique lines alone or composing opposed isosceles triangles made by a dentate stamp. Five sherds were found with horizontal lines at the top and bottom of the collar with opposed right-angled triangles between the lines, one triangle being made by stamping, the next

by incising, and so on. Oblique lines of dentate impressions occur below the collar. Less common are sherds with the Durfee Underlined type of design and oblique cord impressions at the top and bottom of the collar. Two sherds have oblique impressions of the edge of a cordwrapped paddle at the top and bottom of the collar with triangles outlined by dentate stamp impressions but filled with parallel incised lines in the middle of the collars.

Shape: Bases of vessels are round, bodies globular or elongate-globular, necks slightly constricted, and collars well defined and of medium height (Figure 24, Nos. 4, 7, 15, 16, 22, 23).

Distinctive Features: Designs made by two or more decorative techniques of incising, dentate stamping, or cordwrapped paddle edge impression on well-defined medium height collars.

Temporal Range: These are in the early part of the series, mainly at the Lanorie site.

Geographical Range: In the upper St. Lawrence River valley.

Relationship: This is obviously related to Swarthout Dentate, Lanorie Corded, and various incised Onondaga-Oneida types.

Lanorie Crossed (Plate XXVIII, figures 1 to 4)

Paste and Surface Finish: Same as previous type.

Decoration: The commonest decoration consists of crossed lines on a short collar (Figure 27, No. 168). A rather distinctive design is one having a row of crossed short incisions at the top of the collar, three to five horizontal lines in the middle of it, and short oblique lines or gashes at the base (Figure 27, No. 171). These are on short collars. Rarer are crossed lines on the top of a thickened lip (Figure 27, Nos. 224, 225).

Shape: Bodies are globular, necks constricted, and most collars are short (Figure 24, Nos. 49, 101, 24, 22), though a few of this type have no thickened collar but thickened lips (Figure 24, Nos. 73, 74).

Diagnostic Features: Cross-hatched lines only or above horizontal lines on short collars or cross-hatched thickened lips.

Geographical Range: Lanorie site on the St. Lawrence.

Temporal Range: The time period of the Lanorie site.

Relationships: Unknown.

Iroquois Linear

This type has been described previously, but at the Lanorie and Ivey sites six sherds of a possible variant occur and may in the future become the basis for a new type. These sherds bear oblique or vertical lines of overlapping linear punches under a horizontal line of overlapping linear punches.

ONONDAGA-ONEIDA ABERRANT SHERDS

As may be seen by the types used in the seriation and the list of aberrant sherds, the Onondaga-Oneida is most useful in correlating all the other series.

The Mohawk series, on the basis of the types in the seriation (Chance, Cayadutta, Fonda, and Otstungo Incised) and the aberrant types, would seem to indicate that the Swarthout development to Pompey Center sites of the Onondaga series is roughly coeval with the Cayadutta to Rice Woods sites of the Mohawk series. Lanorie appears to be of roughly the same time as Goodyear in the Mohawk series on the basis of Oak Hill Corded and Goodyear Corded aberrant types from the Lanorie series. The Neutral series from Pound to the Buffum site is tied to the Onondaga series from Swarthout time to Pompey Center on the basis of Lawson Opposed. The earlier part of the two series is more difficult to connect, but the large amount of Ontario Horizontal and Iroquois Linear would seem to tie Uren to Ivey.

The Huron series connects with the Onondaga group fairly well, with Roebuck and Pompey Center connected with Orr Lake, Warminster, Sidey-Mackay, on the basis of Warminster Crossed and Hudson Incised aberrant types. Seed seems about the time of the Caen site on the basis of Seed Notched, while Black Creek appears roughly coeval with Swarthout on the evidence of the Black Necked type.

The Cayuga series is not so well tied to the Onondaga group, but Pompey Center, Myer's Station, and Genoa Fort appear contemporaneous on the basis of the presence of Genoa Frilled type in each; Belcher, Richmond Mills, or Woodley appear connected with the Onondaga series from Caen to Roebuck times.

The Seneca series, on the basis of aberrant sherds in Onondaga sites, cannot be connected with the Onondaga-Oneida series.

Table VII

Distribution of Onondaga-Oneida Aberrant Sherds

Types	Pompey Center	Roebuck	Durfee	Caen	Swarthout	Lanorie	Ivey	Tribal affiliation
Rice Diagonal.....	1	2	1	7	11	Mohawk
Otstungo Notched Lip..	2	3	1	3	.....	34	.....
Wagoner Incised.....	2	5	10	4	5	..	.....
Oak Hill Corded.....	.....	.....	.....	.....	.....	23	1
Goodyear Corded.....	.....	.....	.....	.....	.....	7	.....
Lawson Opposed.....	1	8	6	1	3	Neutral-Erie
Warminster Crossed....	1	Huron
Huron Incised.....	1	16	1	6	.....	.....	.....
Seed Notched.....	.....	.....	.....	2	1	1	.....
Black Necked.....	.....	1	.....	1	8	2	1
Richmond Incised.....	1	4	1	1	Cayuga
Genoa Frilled.....	1	.....	.....	.....	.....	.....	.....
Dutch Hollow Notched.....	2	9	Seneca

CHAPTER IX

ONEIDA POTTERY TYPES

GENERAL

The shortcomings of the Onondaga series are present also in the Oneida pottery. However, the lack of material from this area is due to lack of investigation rather than looting.

The Munnsville site in Stockbridge Township, Madison Co., N.Y., from which I have a small sample, is evidently the Oneida village visited by a Dutch journalist in 1634.¹ The Thurston site nearby is evidently of the same period and is probably Oneida, though not documented. The Diable site is, for the most part, prehistoric, though two iron axes have been found on it. From two of the sites I have a very small amount of pottery, but from the Thurston site I have a very adequate sample.²

Pottery trends and types connect the Diable site with that of the prehistoric Roebuck site. As I said before, the Roebuck site is also connected with the historic Onondaga component on the Lawrence Farm at Pompey Center. Thus the Oneida and Onondaga separated at a very late date, and from the present meagre data even at historic times the two were almost identical. The greater amount of Thurston Horizontal seems to represent the only significant difference between the two, but the small samples from historic Onondaga sites do not allow any definite conclusion.

In terms of the prehistory of the group, I shall not interpret further but merely state that what has been said of the prehistoric Onondaga is also true of the Oneida (Figures 18, 19).

Thurston Horizontal (Plate XXIII, figures 1 to 4)

Paste: Same as Syracuse Incised.

Surface Finish: Poorly smoothed.

Decoration: Decoration consists of two to seven horizontal lines in the middle of the collar. Above the horizontal lines is a band of closely-spaced vertical lines, and there is a similar band below. The bases of the collars may be notched or un-notched (Figure 26, Nos. 100, 101, 102). In many cases it appears that first the wet clay of the collar was decorated with vertical lines, and then, later, horizontal lines were incised over the vertical lines in the middle of the collar. Often on pots of this type from historic sites there are human effigies under the castellations. The head is round with the facial features fairly distinct; the body is short and rectangular, usually with closely-spaced horizontal lines crossing it. The arms extend out and downward from the body and are indistinct; they also are crossed by horizontal incisions. In rare cases, one arm is flexed and the forearm raised

¹ Beauchamp, Wm. M.: *Aboriginal Occupation of New York*. New York State Museum Bulletin 32, Albany, N.Y., 1900.

² I should like to thank Mr. H. Bigford of Earlville, N.Y., for being very co-operative in my study of his materials from these three sites.

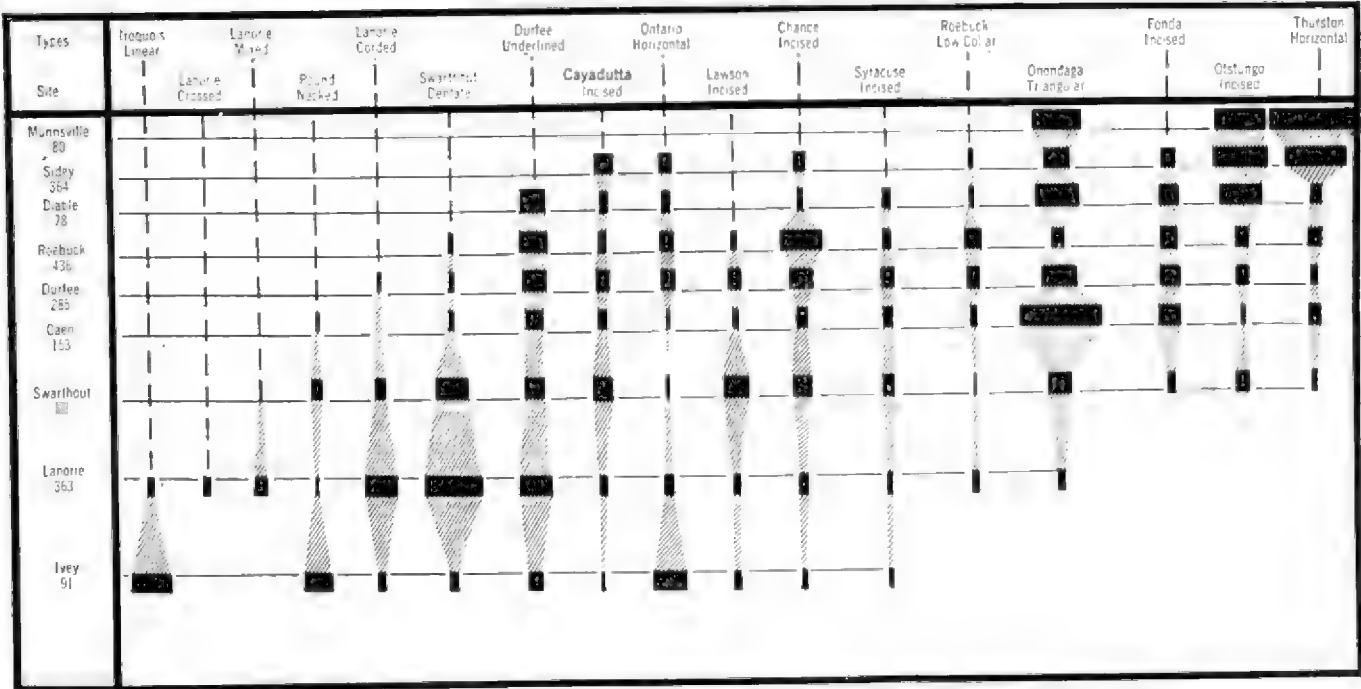


Figure 19. A graph of the seriation of Oneida Pottery types.

with the palm of the hand facing the front, or the hands are on the hips. The legs extend straight down from the body. Often the lower legs extend below the collar, while the thigh is on the collar. This gives the legs a slightly flexed appearance. The feet may come together or be slightly apart. The legs are also crossed by horizontal incisions. The entire figure (except the head) is composed of limbs and a body which are definitely rectangular and conventionalized. No attempt seems to have been made to reproduce actual body contours or dimensions. Oblique incisions sometimes appear on the shoulders of pots of this type.

Shape: Bodies are globular with necks only slightly constricted, and the collars are well defined with definite channels. In height the collars range between 1 inch and 2½ inches and generally are about 1½ inches tall (Figure 24, Nos. 21 and 32, and 4, 9, 10, 16). No castellations, one castellation, or two castellations (rarely more) occur. Two castellations are most common.

Diagnostic Features: Low to medium height, well-defined collars bearing horizontal lines in their centres with vertical lines above and below them.

Temporal Range: This is mainly a historic or very late prehistoric type.

Geographical Range: This type is found mainly in Onondaga and Madison Counties of central New York. It occurs, however, on sites in the Watertown area, and pots of this type have been found at the Fort Plain site, Warren site, and the Dutch Hollow site. A few sherds of this type have come from late Mohawk sites in Montgomery County, N.Y.

Relationship: The type seems to have been derived from concepts involved in Fonda Incised (the horizontal line in the middle of the collar) and Chance Incised (vertical line at the top and bottom of the collar). The effigy figures show a long development. A conventionalized face of three hollow reed punctates (eyes and

mouth) inside a pentagon, under castellations, are present at the Lanorie, Swarthout, Caen, Durfee, and Roebuck sites. Modelled faces appear on late prehistoric and early historic sites, such as Atwell, Nichols Pond, and Diable, and bodies have been added to the effigy faces on the sherds from late historic Oneida and Onondaga sites as Indian Hill, Pompey Center, Brewerton, Cameron, Thurston, and Munnsville.

ONEIDA ABERRANT SHERDS

Cayuga sherds were found on the Thurston site. There were four sherds of Genoa Frilled, eleven sherds of Ithaca Linear, and four sherds of Richmond Incised.

CHAPTER X

MOHAWK POTTERY TYPES

GENERAL

The Mohawk series may soon be the best, for well-documented historic sites are being scientifically dug, adequate samples of sherds from a number of early historic or proto-historic sites are available, materials from late prehistoric sites are abundant, and collection from a number of other sites exist, which, however, were not included in my study, either because the samples of sherds were too small or because I did not have the opportunity to study the materials. The worst part of the series is on the early level, but Dr. Ritchie and others are at present concentrating on this facet of the problem, and their results are awaited with interest.

The best documented site is just above the Tekakwitha Friary near Fonda, N.Y. The location of this site fits very closely the location of the village of Caughnawaga on Wolfgang Romer's map of the region of about 1700. This site also coincides very closely with the locations of Caughnawaga in the Jesuit Relations of 1667-1669. Furthermore, the beads and various other European artifacts excavated from the village were originally derived from both English and French sources and may date the site as having been used during the latter part of the seventeenth century.¹ Materials from this site are at present rather meagre, but I believe the excavations of 1950 will greatly supplement them.

The Rice Woods, Martin, and Wagoner Hollow sites have been identified, respectively, as the village of Canajorha of 1677, a part of the village of Caughnawaga of 1667, and the lower castle of the Wolf Band of the period after 1693.² However, the archæological evidence does not confirm such identifications, because no English trade goods are to be found on these sites (though there are French goods), which supposedly belong to a period of English domination and contact. Nevertheless, the pottery types are identical with those on the historical documented Caughnawaga, and I conclude from this that these villages are Mohawk of early historic times.

Rice Woods³ and the Martin site⁴ do not have large samples, though Wagoner Hollow does.⁵ These sites are characterized by Rice Diagonal, Wagoner Incised, and Otstungo Incised. Seriation of type places them in the order in which they appear on the charts, though all were probably partly contemporaneous.

Connecting very closely with Wagoner Hollow is the prehistoric Smith site. John Swartz of the Van Epps-Hartley Chapter assisted me in

¹ Father Grassman was most kind in showing me the artifacts from this site and the results of his study of the early documents and maps concerning this site. These results I have paraphrased in the above paragraph.

² For a summary of this identification see Fenton, 1940.

³ Mr. Marvin and Mr. Naylor of the Van Epps-Hartley Chapter and the New York State Historical Society of Coopertown, N.Y., have materials from this site and were most generous in permitting me to study them.

⁴ I should like to thank the members of the Van Epps-Hartley Chapter of Schenectady, N.Y., for the privilege of showing their materials from this site.

⁵ Donald Lenig of St. Johnville, N.Y., allowed me to study his materials from Wagoner Hollow, and also discussed and corrected the section of this paper concerning Mohawk Pottery types.

analysing the sherds he so carefully excavated from this site. At the Smith site and Wagoner Hollow, one sees the noticeable increase of the Cayadutta Incised type which helps to tie them to an earlier prehistoric site.

Preceding these ancient villages are the prehistoric Otstungo,¹ Garoga,² and Cayadutta sites.³ All the types present in Wagoner Hollow and the Smith site are also present in these sites, but ceramic trends of types and the presence of Iroquois Linear in the Cayadutta site give a basis for the alignment of them. I am most fortunate in having abundant materials from here.

The period preceding the above-mentioned prehistoric sites is represented by very inadequate samples. The Chance site seems to be the latest.⁴ Chance Incised, Cayadutta Incised, and Oak Hill Corded are the dominant types. Wagoner Incised and Rice Diagonal are absent, but the other Mohawk types occur. Also present with these materials are a few sherds of Owasco types (which may be stratigraphically earlier). The earliest site from which I have materials is Goodyear Lake which has somewhat the same assemblage as Chance but with greater amounts of Oak Hill Corded and Iroquois Linear, as well as more Owasco types.⁵

One of the refuse heaps from the Oak Hill site near Fort Plain, N.Y.,⁶ materials from the Second Woods site, and the materials from the Chipman's Point Rock Shelter near Ticonderoga, N.Y.,⁷ also seem to be of this period, but very small samples discouraged me from including them in my charts. However, recent investigation has revealed the largest site of this variety occurs to the west in Madison and Onondaga counties.

The Owasco pottery types in these early Mohawk sites, the Mohawk types in the Bainbridge, Castle Creek Focus sites, as well as general artifact trends and trait comparisons hint at a possible development from the Mohawk from the Castle Creek Focus or something extremely similar to it.

In terms of movements of people, the Mohawk seem to have been shifting into Mohawk Valley from the south and west (the upper Susquehanna River drainage) during the earliest time period of our series. Their first homeland in Mohawk Valley was in the general area of Fort Plain whence they moved eastward down Mohawk Valley during late prehistoric and early historic times. The complete absence of Mohawk sites in the St. Lawrence Valley (though there are indications of sites around Lake Champlain) completely negates the possibility of this region being their homeland, as is so often stated.

A better interpretation of the vocabulary collected by Cartier at Hochelaga, near Montreal, is that those people were speaking an Oneida dialect, not Mohawk. T. Lounsbury of Yale University informs me that the great similarity of the Mohawk and Oneida dialects would make it difficult to identify which of these two groups was at Hochelaga, on the

¹ My data are derived from the collections of Van Epps-Hartley Chapter, The New York State Historical Society, and Mr. Naylor.

² I should like to thank Dr. D. Scott of the Peabody Museum of Harvard for allowing me to examine these materials.

³ Dr. W. A. Ritchie and Mr. P. Schuyler Miller, of the Van Epps-Hartley Chapter, provided me with materials from this site.

⁴ These materials are in the collections of the Van Epps-Hartley Chapter and at the Albany State Museum.

⁵ Materials from this site are in the Yaeger Collection of Oneonta, N.Y., and in the Ceramic Repository at the University of Michigan.

⁶ Materials in the Van Epps-Hartley Chapter collections.

⁷ J. Bailey: "A Stratified Rock Shelter in Vermont." Proceedings of the Vermont Historical Society, Vol. VIII, No. 1, Battleboro, Vermont, 1940.

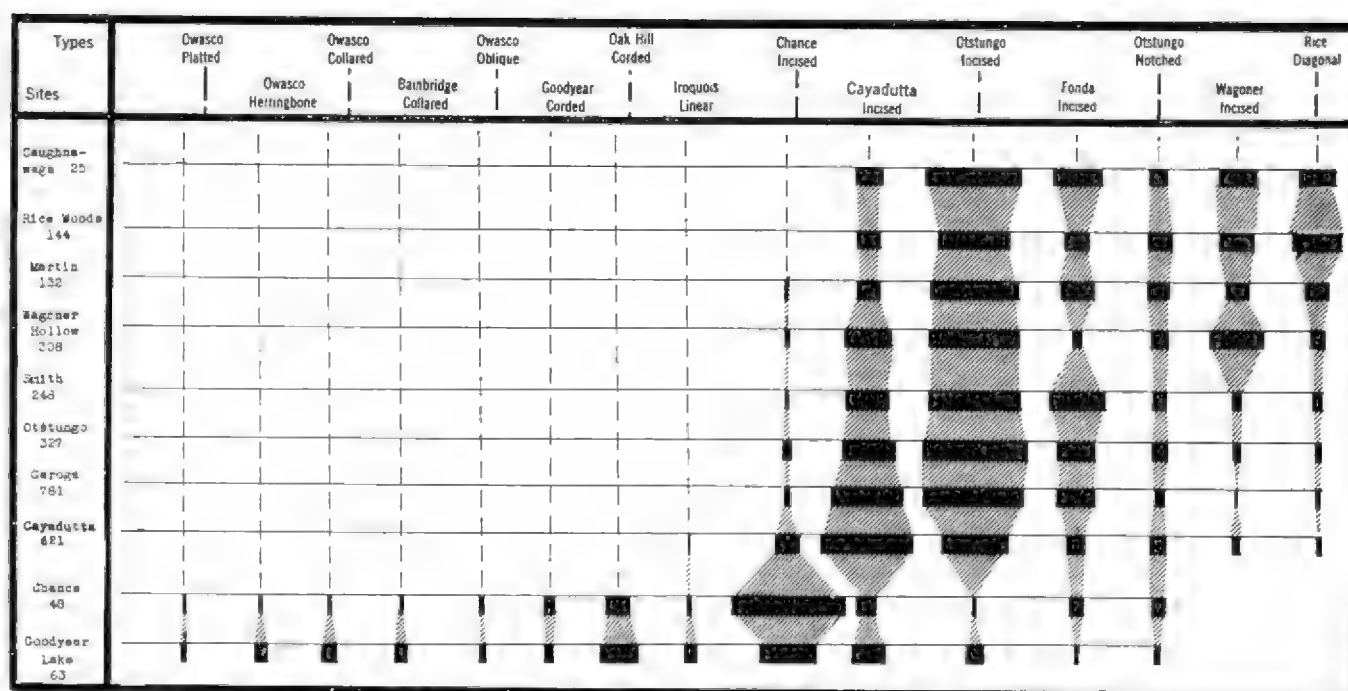


Figure 21. A graph of the seriation of Mohawk pottery types.

basis of linguistics. The archaeological materials from Hochelaga are Onondaga-Oneida, not Mohawk. In any case, the archaeological data are the criterion of cultural identity at the early time level.

The distribution of Mohawk pottery types in the other groups surrounding that tribe are suggestive of widespread cultural relationships. The most striking of these is the occurrence of all the so-called "Mohawk" pottery types in the Onondaga-Oneida series. This is certainly indicative of a long period (probably extending well back into Owasco times) of intra-cultural influence. However, what is perhaps even more noticeable is the rare occurrence of Oneida and Onondaga pottery in the Mohawk series. Whether this is a case of the Oneida and Onondaga taking concepts, captives, and types from the Mohawk rather than the converse, or whether the Mohawk development stimulated and influenced a lagging Onondaga-Oneida sequence, or whether a culturally retarded Mohawk development adopted only some of the ceramic types (the Mohawk types) in the Onondaga-Oneida assemblage and not the rest of the types is at present unknown. Of the three possibilities mentioned, I tend to favour the last, because the highly complex Onondaga-Oneida culture is more likely to be the donor of concepts and types than the receiver of them. However, we must await more exact means of dating our sequences before this question can be decided.

The presence of the Mohawk types, Fonda Incised, Wagoner Incised, Otstungo Incised, Cayadutta Incised, and Chance Incised, in the pottery of sites thought to be ancestral to, or which have been identified as historic sites of, the Mahican, Muncie, Unami, Wappinger, Metoac, and Nehantic, suggests relationships.¹ In this case, I believe we may have a Mohawk influence on the Algonkins, though it just as conceivably could be the converse. More data are necessary before the Mohawk-Algonkin complex of relationships can be fully understood.

The similarity of the designs of Fonda Incised and Cayuga Horizontal, as well as Richmond Mills Incised and Cayadutta and Otstungo Incised, suggest diffusion. (The designs are similar, but one must remember

¹ Pottery Conference at Rochester, N.Y.

that the shapes are recognizably different, the Mohawk having well-defined collars of medium height, and the Cayuga, on the other hand, having poorly defined collars of medium or tall height.) My explanation for their resemblance is not a simple one. It appears that Mohawk and Cayuga may have had a very similar development from a similar Owascoid base (respectively Castle Creek and Sackett Farm). I have brought forth evidence that in earlier times both groups occupied territory farther south than their historic homes and that these territories probably touched somewhere in the area between Binghamton and Ithaca, N.Y. Thus there was ample chance for inter-influencing between the two adjacent cultures. Their gradual movement away from one another, the intrusion of the Oneida and Onondaga between them, and the influence on both by different cultures led to the decrease of similarities between Mohawk and Cayuga at historic times.

These Mohawk pottery types pose an interesting problem in any classification of the Iroquois based on pottery types alone; for the Mohawk, ceramically, though close to the Oneida and Onondaga, are far closer to the Algonkin—Mahican, Muncie, Unami, Wappinger, and Metoac—and more likely to be classified with them than with the Iroquoian Cayuga, Seneca, Erie, Neutral, and Huron. Such a difficulty may also be present in any classification of the Mohawk based on total trait complexes, such as the McKern taxonomic system. Thus any general classifications (McKern or other) of historic or prehistoric components in this area, without the use of the direct historic approach, may confuse rather than assist historical reconstruction.

Rice Diagonal (Plate XXIX, figures 5 to 8)

Paste:

Temper: The temper is grit. Consistency is good, but cross-sections show interiors to be laminated and the sherds to have a tendency to be flaky.

Colour: Exterior surfaces are grey to orange; interior surfaces are darker. In cross-section the inner section is far darker than the lighter surfaces.

Hardness: About 2·7.

Surface Finish: Smooth.

Decoration: Decoration consists of incisions on the thickened lip. The incisions on the lip are usually parallel oblique lines, though rarely there are straight lines at right angles to the lip (Figure 27, Nos. 222, 223, 232). In some cases the interior and exterior of the lip may be notched.

Shape: Globular bodies, constricted necks, and outflaring rims with a thickened lip (Figure 24, Nos. 78, 74, 75, 80 to 82) commonly occur.

Diagnostic Features: Parallel oblique lines on thickened lips.

Geographical Range: Mohawk Valley.

Temporal Range: This is mainly a historic type, though it appears in late prehistoric times.

Relationships: This is probably derived from Otstungo Notched and Goodyear Corded.

Wagoner Incised (Plate XXIX, figures 1 to 4)**Paste:**

Temper: Temper is grit in small amounts.

Paste: The paste is well knit, though in cross-section lamination may be seen.

Colour: The surfaces vary from very dark grey to orange. In cross-section, sherds show some contrast between the interior and the surface, though it is not sharp. Thickness is less than 1 cm.

Hardness: About 3.

Surface Finish: The surfaces are rubbed when the clay is dry and often approach a dull polish.

Decoration: The decoration is confined to the collar. Decoration consists of parallel, oblique, or vertical incisions (Figure 25, Nos. 3, 12, and 21), but, most commonly, opposed isosceles triangles filled with parallel lines (Figure 24, Nos. 30, 39). At the base of the collar are always circular notches. Interior rims may have a slight notch, and the shoulder may be decorated.

Shape: Bodies are globular and necks constricted. Collars are of medium height (about 2 inches) and sharply differentiated from the neck. The shape of the collar is distinctive in that it is often outflared at the base and the rim, and on the interior there is a channel opposite the base of the collar, not in the middle of it (Figure 24, Nos. 11 to 14, 8). A few of the earlier collars of this type are straight or slightly outcurved (Figure 24, Nos. 2 to 7); this, however, is rarer.

Diagnostic Features: Parallel lines, oblique or vertical, often in opposed isosceles triangles on collars of medium height that have circular notches at their base.

Temporal Significance: This type in Mohawk territory is usually associated with historic sites. It occurs earlier in both the late prehistoric Mohawk and Onondaga territory.

Spatial Significance: It occurs in the Mohawk and Onondaga-Oneida areas.

Relationship: The type is obviously derived from Cayadutta Incised and related to similar types in the Cayuga, Oneida, and Onondaga series, such as Richmond Incised and Syracuse Incised.

Otstungo Notched (Plate XXX, figures 1 to 3)

Paste and Surface Finish: Same as Wagoner Hollow.

Decoration: Decoration is on top of a thickened lip. The dominant decorative motif in earlier times is one or two encircling incisions parallel to the edge of the lip with interior and/or exterior bands composed of notches or short lines at right angles to the encircling incisions (Figure 27, Nos. 229 to 231). Other motifs include opposed oblique lines (Figure 25, No. 28). Notches are at the interior and exterior edge of the lip (Figure 27, No. 226), some-

times with two encircling incised lines (Figure 27, No. 227) in the centre of the lip. Decoration of oblique lines with or without horizontal lines may appear on shoulders.

Shape: Bodies are globular, necks straight or very slightly constricted, rims outflaring, and lips thickened. The thickened lips are usually made by pressure on their surface; rarely, evidence of an appliqué of clay may be seen (Figure 24, Nos. 70 to 83).

Significant Feature: The thickened lip with incised decorations containing an element of lines paralleling the lip or notches on it is the distinguishing feature of the type.

Temporal Range: A minority ware throughout Mohawk history, reaching dominance in historic sites.

Spatial Range: The type is found mainly in the Mohawk, Oneida, and Onondaga territory.

Relationship: The type is probably derived from Goodyear Corded. I believe the Bainbridge Notch Lip type is the same as this type.

Fonda Incised (Plate XXX, figures 4 to 9)

Paste: Same as previously described.

Surface Finish: During the late part of its use it has a smooth surface, but I suspect at earlier times it had check stamped or cordmarked surfaces.

Decoration: The dominant motif is horizontal parallel lines with a band of short vertical lines above the uppermost line and the lip, while elliptical or crescent notches are at the base of the collar (Figure 25, Nos. 76, 78 to 80). In many cases the horizontal line motif is broken by triangles filled with parallel oblique lines (Figure 26, Nos. 93 to 97). On earlier specimens there are opposed oblique bands of three or four parallel lines forming triangles on the neck (Figure 27, No. 235 or 236).

Shape: Bodies are globular, necks constricted, and there is an out-bulging collar (Figure 24, Nos. 1 to 4) which may have two to four castellations on it. There is a general tendency for the collars to increase in height toward historic times and to display more variation in shape (Figure 24, Nos. 5 to 20).

Diagnostic Feature: Horizontal incised decoration on medium-sized collar.

Temporal Relations: The type occurs as a minority ware throughout Mohawk history.

Spatial Relations: The type occurs in Mohawk, Oneida, Onondaga, Wappinger, Muncie, Unami, Mahican, and Metoac territory and is closely related to early types over the whole Iroquois area.

Relationship: This is related to a series of other early Iroquois types and evidently develops out of Bainbridge Incised or Owasco Corded Collar, and is closely related to Ontario Horizontal.

Otstungo Incised (Plate XXXI)

Paste and Surface Finish: Same as Wagoner Hollow Incised.

Decoration: Just below the lip on the outer rim are to be found short vertical parallel lines underlain by one or two horizontal lines

paralleling the lip. However, the main body of the collar is decorated with parallel oblique lines (Figure 25, Nos. 46, 49), parallel vertical lines (Figure 25, No. 52), opposed triangles filled with oblique lines (Figure 25, Nos. 53, 58), or oblique lines separated by a band of vertical lines (Figure 25, Nos. 68, 72, 73). The vertical lines in the final kind of decorative motifs are usually under collars. In rare cases the parallel oblique lines of the above decorations are filled with notches (Figure 25, Nos. 61, 63 to 67, 74). At the base of all collars are round or elliptical notches or punctates. Sometimes the interior rims are nicked, and the shoulders are decorated either by a band of oblique lines or oblique lines above and below three to eight horizontal lines.

Shape: Bodies are round, necks slightly constricted, and there is usually a medium-height collar round the rim. The collars tend to have a straight exterior and a channelled interior (Figure 24, Nos. 6, 15 to 17, 10, and 7). However, the cross-sections of the collars show considerable variation (Figure 24, Nos. 1 to 5).

Significant Feature: The type's distinguishing features are medium-height collars with motifs composed of oblique or vertical lines, or both, with elliptical punctates below them and horizontal lines or lines underlying a band of short vertical lines above them.

Temporal Significance: This type reaches its zenith at very late pre-historic times, though it is still the dominant type in historic times. It extends back a considerable time, though it is very weak in earlier sites.

Spatial Range: This type or variants of it appears in the Mohawk, Oneida, Onondaga, Mahican, Muncie, Unami, Wappinger, Long Island, and Lake Champlain areas.

Relationship: It is clearly related to Wagoner Hollow Incised, Cayadutta Incised, Fonda Incised, and Chance Incised. It may well have been derived from either Fonda or Chance Incised or some earlier, more Owascoïd, type.

Cayadutta Incised (Plate XXXII)

Paste and Surface Finish: Same as Fonda Incised.

Decoration: The decoration is the same as Otstungo Incised, except that instead of elliptical notches at the base of the collar this type has hemiconical punctates or crescentic or oblique gashes (Figure 25, Nos. 47, 50, 53, 56, 59, 62, 69, 71, 74). On sherds of this type from early sites there may be oblique bands composed of short linear horizontal punches or opposed triangles outlined by four parallel lines on the neck. Oblique lines with or without horizontal lines appear on the shoulders.

Shape: Bodies are globular, necks slightly constricted, and collars are bulging with or without interior channels. (Most common are cross-sections Nos. 1 to 4 of Figure 24, though Nos. 6 to 10 and 15 to 20 occur spasmodically.)

Diagnostic Feature: Incised oblique-line decoration with crescentic punch marks on the base of medium-height collars.

Temporal Range: This type runs throughout most of Mohawk history reaching its culmination in late prehistoric times.

Spatial Range: Same as Fonda Incised.

Relationship: This type is closely connected with Chance, Fonda, Wagoner, and Otstungo Incised. It is probably derived from Oak Hill Corded or similar types in sites of the transition from Castle Creek to recognizable Mohawk.

Chance Incised (Plate XXXIII, figures 4 to 7)

Paste:

Temper: Grit in large amounts.

Texture: The sherds have a sandy feel, and the inner section shows them to be well knit.

Colour: Exterior surfaces are light in colour, often yellow-orange, and contrast radically with the dark centres and greyish interior surfaces.

Hardness: The sherds are quite hard, being about 3.

Surface Finish: Not known exactly, as whole pots of this type are unknown; but body sherd collections from sites having a large proportion of this type show surfaces that are either check stamped or smooth.

Decoration: The decorations consist of a band of almost vertical lines on the upper outer rim, above one or two horizontal lines. Below this, on the greater part of the collar, are oblique lines (Figure 25, Nos. 48, 51), opposed oblique lines (Figure 25, No. 57), vertical lines (Figure 25, No. 54), vertical and oblique lines usually near collars (Figure 25, No. 60), horizontal lines (Figure 25, No. 82), and horizontal lines broken by triangles filled with oblique parallel lines (Figure 26, No. 95). There are no notches at the base of the collar. Necks are often decorated with oblique plats of linear punches, four incised oblique lines forming triangles, or herringbone designs.

Shape: Bodies are globular, necks constricted, collars sharply differentiated from the neck. The collars usually have an interior channel and are straight to slightly bulging on the exteriors (Figure 24, Nos. 2 to 5, 15, 17, 22 to 26).

Diagnostic Features: Incised designs on sharply-marked, low-medium-to medium-height collars without basal notches, and often with neck decoration.

Temporal Range: This is mainly a prehistoric type which, in the Mohawk series, is the dominant type in the earlier stages. In the Onondaga-Oneida series it is very popular at a slightly later date.

Geographical Range: The type occurs in Mohawk, Onondaga-Oneida, Mohican, Delaware, and Wappinger territories.

Relationship: Probably derived from Oak Hill Corded or Owasco Corded Collar. It is closely related to Cayadutta, Otstungo, and Fonda Incised types.

Oak Hill Corded (Plate XXXIII, figures 1 and 2)

Paste:

Temper: Grit in small amounts.

Texture: Sandy, laminated.

Colour: Surface orange to black. In cross-section, outer section in radical contrast to inner section.

Hardness: 2-5.

Surface Finish: Not known, though trends of body finish would indicate this type probably to have been check stamped or cord marked.

Decoration: Motifs are the same as Fonda Incised and Cayadutta Incised; however, the technique of decoration is entirely different. Decorations were made by impressing the edge of a cord-wrapped paddle on the damp clay. Also there are often neck decorations. These show considerable variation, consisting of oblique plats of horizontal linear punches, triangles formed by opposed oblique incisions (three or four lines) outlining the triangles, and may also have opposed triangles filled with lines made by the edge of a cord-wrapped paddle. Shoulder decorations may occur.

Shape: Identical with Fonda Incised.

Diagnostic Feature: Fonda Incised and Cayadutta Incised shapes and designs done with a cord-marked paddle edge technique.

Spatial Relationship: These occur from the St. Lawrence River Valley to Binghamton, New York, at the Clark site.

Temporal Relationship: This is a very early Mohawk type and occurs in the period from a Castle Creek or Castle Creek-like horizon to recognizable Mohawk period.

Relationships: This type is probably ancestral to Chance, Fonda, Wagoner Hollow, Cayadutta, and Otstungo Incised types. It is probably derived from Bainbridge Collar Incised. It has relationship with early Cayuga and Onondaga-Oneida, which are of the same time period. It is an almost perfect transitional type from Castle Creek or Castle Creek-like to Mohawk, as it has the technique of design and the neck decoration and surface finish of the earlier Castle Creek or Bainbridge materials as well as the shape and designs of types that appear on historic Mohawk types. The designs are, of course, similar to Bainbridge Collar Incised but are identical with Fonda Incised or Cayadutta Incised and appear to show the development of that design motif.

Goodyear Corded (Plate XXXIII, figure 3)

Paste and Surface Finish: Same as Oak Hill Corded Collar.

Decoration: The decoration or motif is identical with those of Otstungo Notched, but the technique of design is cordwrapped paddle edge impression, not incising. Whether there are neck or shoulder decorations is at present unknown.

Shape: Identical with those of Otstungo Notched Lip.

Spatial and Temporal Relationship: About the same as Oak Hill Corded. However, the fact that one sherd of this type was found at Bainbridge makes it possibly a little earlier. It is found also on the Lanorie site (Onondaga-Oneida).

Relationships: This type probably developed from earlier thickened and decorated lip types of Castle Creek and Bainbridge and gave rise to Otstungo Notched Lip, which appears on later Onondaga-Oneida and Mohawk sites.

Iroquois Linear

Previously described.

MOHAWK ABERRANT SHERDS

Five late Onondaga-Oneida types are in late prehistoric and historic Mohawk sites. On the basis of Thurston Horizontal one would suspect that Cayadutta is coeval with Swarthout, Caen, Durfee, or Roebuck sites. The distribution of Roebuck Low Collar and Onondaga Triangular tends to confirm this. Syracuse Incised and Durfee Underlined occur but are of no value in linking the series.

Huron types, Warminster Crossed and Huron Incised, occur mainly in the historic Mohawk sites; Richmond Incised, a Cayuga type, and Seneca Notched occur only at Garoga.

Table VIII

Mohawk Aberrant Sherds

Types	Rice Woods	Martin	Wag- oner Hollow	Otstungo	Garoga	Caya- dutta	Chance	Good- year Lake
<i>Onondaga-Oneida</i> ..								
Thurston Hori- zontal.....	5	—	8	—	1	6	—	—
Onondaga Trian- gular.....	2	11	2	1	2	2	—	—
Roebuck Under- lined.....	—	1	6	3	2	—	—	—
Syracuse Incised.	—	—	—	—	2	—	—	—
<i>Huron</i>								
Warminster Crossed.....	1	1	—	—	—	—	—	—
Huron Incised....	2	—	—	—	2	—	—	—
<i>Cayuga</i>								
Richmond Incised.....	—	—	—	—	1	—	—	—
<i>Seneca</i>								
Seneca Notched..	—	—	—	—	1	—	—	—

CHAPTER XI

INTERPRETATION.....	81

In the preceding pages I have presented some interpretations of the archæological sequences of the Iroquois groups and shown the relationship of the pottery types. Admittedly our data are fragmentary, and my interpretations are in no way final. However, on the basis of the present evidence, I do believe that some tentative conclusions may be drawn. These, of course, are subject to modification when new sites are excavated, and the large amount of data derived from analysis of the many excavated sites are finally published.

As an interpretation of Iroquois archæology requires an understanding of the preceding ceramic horizons, I shall briefly review the material discussed by Ritchie and MacNeish,¹ who showed that, at the same time as Adena and Hopewell to the west, the Point Peninsula culture was developing in upper state New York. Furthermore, a study of collections from the Ontario Peninsula indicates that a similar development took place there. Thus, on the Middle Woodland time level there is a general cultural homogeneity in upper New York and lower Ontario. Ritchie and MacNeish showed that there is strong evidence for the development of the Owaseco culture from Point Peninsula. Since that article was written, Ritchie has excavated another stratified site near Brewerton, presenting an unbroken sequence from a Jack's Reef type of Point Peninsula culture through a transitional culture into the Wickham Owaseco type.² He has also exhumed comparable materials in the Picton area of Ontario.³

After the Point Peninsula horizon it appears possible to arrange Owaseco sites in sequence. Of great importance from the standpoint of Iroquois prehistory is the amount of areal differentiation and areal development in the Owaseco. In the article by Ritchie and MacNeish, "Pre-Iroquoian Pottery of New York State," one sequence noted was from Jack's Reef to Levanna to Sackett, while another may be from Jack's Reef to Wickham to Castle Creek to Bainbridge (and also to Bell-Philhower). Recent work by Thomas Lee in the lower Ontario Peninsula has brought to light still a third Owaseco developmental series, and materials from the Watertown area in New York, from the Pillar Point and Calkins sites, hint at a fourth. This last development is very similar to the Wickham to Castle Creek to Bainbridge sequence, particularly at the early Wickham level. Thus it seems likely that, during the Owaseco horizon, various groups which had developed from a more or less homogeneous Point Peninsula culture were separating into four areal subdivisions.

It was also noted that in the Owaseco series (in each division or as a whole) there were certain ceramic trends that pointed in the direction of Iroquois pottery, such as the increased number of sherds with pronounced

¹ Ritchie and MacNeish. *Op. cit.*

² Personal communication.

³ W. A. Ritchie: "An Archæological Survey of the Trent Waterway in Ontario, Canada, and its Significance for New York State Prehistory." *Researches and Transactions of the New York State Archæological Association*, Vol. 12, No. 1, Rochester Museum of Arts and Sciences, Rochester, N.Y., 1949.

collars, greater use of incised decoration, more castellations, a better paste, and check-stamped surface treatment. Also there is a tendency in the later sites for decoration to be mainly on the collar.

This evidence from Owasco pottery, as well as in Iroquois ceramics, and other information to be presented shortly indicates the probability that the Iroquois developed from the Owasco. General trends in all Iroquois series (from early to late) are for the Owascoid cord-wrapped paddle-edge type of design to disappear; the cord-wrapped, paddled, and check-stamped surface finish to be submerged by the smoothing technique, and decoration on the neck gradually to diminish and, in most series, to disappear. In other words, Owasco ceramic characteristics carry over into the Iroquois series, though they are gradually disappearing. Some of the trends that started in Owasco (mentioned previously) continue throughout the Iroquois series, for all through the Iroquois development collars become better defined and castellations are more pronounced and elaborate. (Note, for example, the effigies under castellations in late Onondaga-Oneida and the squared castellations in Huron.) Incising becomes the only decorative technique, decoration is confined to the collar, and the paste is generally improving. In passing, let me mention that the trends in projectile and pipe types tell much the same story. Throughout the Owasco series there is a tendency for the narrow-based isosceles triangular projectile points to increase at the expense of the broad-based ones, while in Iroquois the latter type dies out early in all sequences and the former type takes over. Similarly with pipes, late Owasco types continue into early Iroquois but are soon dominated by new types.

Besides the general ceramic trends, actual Owasco types appear on early Iroquois sites, such as Bainbridge Collared Incised, Owasco Corded Collar, Uren Corded, Uren Oblique, Owasco Herringbone, and Bainbridge Notched-lip. Ritchie has previously pointed out that a large number of non-ceramic traits, as well as the same physical types, are held in common between Iroquois and Owasco.¹ Furthermore, in a paper at the Milwaukee S.A.A. Meeting, I pointed out that of the thirty-six non-ceramic traits common to all the Iroquois groups, thirty-one occurred in late Owasco sites.

Besides the trends, traits, and overlapping types, there are pottery types that are transitional between Iroquois and Owasco; that is, some of the distinctive features of the types are Owasco in combination with others that are Iroquois. For example, Oak Hill Corded, Bristol Corded, Lanorie Corded, Lanorie Transitional, and Dansville Corded are types which, in terms of vessel form and design, are Iroquois, but the technique of making the design is done by the edge of a cordwrapped paddle, an Owasco trait. Also, some of the other early Iroquois types, such as Chance Incised, Ontario Horizontal, Lanorie Corded, and Iroquois Linear, have the Owasco feature of groups of oblique parallel lines on the neck, an Owasco trait common at the Bainbridge site.

Further proof of this Owasco to Iroquois development is the fact that Iroquois in many cases is stratigraphically later than Owasco² and that

¹ Ritchie, 1940. *Op. cit.*

² The Clearville site, Long Point, Middleport, Chance, and others all have Iroquois remains stratigraphically above Owasco remains.

no culture of the same time period as Owasco, and with as many connections with the Iroquois, has been found in the areas which surround the Iroquois.

So far, good link sites between all of the four areal divisions of Owasco and the five beginning stages of Iroquois have not been found. When the hypothesis of an Owasco-Iroquois development was first presented in 1947, there was only one good link site. This was the Hummel site, found by the author, which did appear to link early Cayuga remains and Sackett Farm.¹ However, during the past summer, Thomas Lee, working for the University of Michigan and the National Museum of Canada, has brought to light numerous key sites connecting Uren with an Owasco type of culture in the lower Ontario region. Ritchie found the Second Woods site in Montgomery County, N.Y., which appears to link Bainbridge of the Owasco with early Mohawk remains, and Witthoft has reported sites linking Susquehannah remains with Owasco horizons. Also, there seems to be another group of sites (such as Calkins, Lanorie, and Ivey) in the St. Lawrence area, ancestrally related to Onondaga-Oneida and linked to the latter with Owascoid manifestations.

Thus there is now strong evidence for a development from the Point Peninsula to Jack's Reef type to the Wickham to Castle Creek to Bainbridge of the Owasco horizon to early Mohawk of the Goodyear Lake variety. Evidence also exists for a development of Uren (proto-Neutral-Erie-Huron) from still another Owasco series. In the Cayuga area there appears to be a development from a Point Peninsula to Jack's Reef type of culture to Levanna and to Sackett Farm of the Owasco series which in turn gives rise to the early Cayuga Bristol site. Additional data from the early Cayuga series are still needed to strengthen the thread of continuity already present. A good ancestor for the early Seneca Dansville Flats has not been found, although Seneca pottery trends and Sackett Farm pottery on the Dansville Flats site indicate an Owascoid ancestor which may possibly be Sackett Farm or something similar. The Onondaga-Oneida series also is still without a definite predecessor, though Owasco sites in the area of the Ivey site that resemble Wickham and Castle Creek may turn out to be such. The presence of the Point Peninsula technique of decoration, dentate stamping, in both these Owasco sites and in the Onondaga-Oneida series, speaks for continuity and certainly should be investigated.

Turning now to the Mohawk series, there seems to be ceramic evidence for the development from the Goodyear and the Chance site to the Cayadutta, Garoga, and Otstungo sites. The early corded types, Goodyear Corded and Oak Hill Corded, disappear, as does Iroquois Linear, and are replaced by Fonda Incised, Cayadutta Incised, and Otstungo Notched. Generally speaking, there has been a population shift from south and west of Mohawk Valley into Mohawk Valley. The development from Cayadutta, Garoga, and Otstungo to the historic Wagoner Hollow and Rice Woods sites involves no new pottery types, only shifts of percentages of pottery types already in existence and a general population shift eastward in Mohawk Valley.

¹ Materials from this site are in the Rochester Museum and in the Ceramic Repository at the University of Michigan.

In the Onondaga-Oneida series the earliest site, the Ivey site, is just south of Watertown, N.Y. Lanorie Corded, Iroquois Linear, Swarthout Dentate, and Roebuck Low Collar are its salient features. The Ivey site appears to develop into the Lanorie and Swarthout sites. In terms of pottery types, the Iroquois Linear disappears; Lanorie Corded, Swarthout Dentate, and Durfee Low Collar are common; and a series of new types comes in. During this time the Onondaga-Oneida appear to spread into the St. Lawrence River valley, although they still occupied the Watertown area. The development from Lanorie to Swarthout to Caen to Durfee and Roebuck sees the rise of Onondaga Triangular, Syracuse Incised, and various Mohawk types. It is during this time that we have the great florescence of the Onondaga-Oneida group with their culture spread over a huge area from Onondaga and Madison Counties on the south and east, Montreal on the north, and Belleville, Ont., on the west. The Hochelaga site at Montreal, which was seen in 1535 by Jacques Cartier, seems near the end of this general time period.

In the shift from the prehistoric Caen, Durfee, Roebuck, Atwell Fort, Nichols Pond, and Diable sites to historic sites, one sees the disappearance of Onondaga Triangular and Durfee Underlined, and a continuation of most of the older pottery types. In terms of population movement, the Onondaga and Oneida retreated to Onondaga, Oneida, and Madison counties of central New York, and, as far as the evidence goes, it was during this time that the Oneida separated from the Onondaga.

The early Cayuga development appears to take in the general area north and west of Canandaigua Lake. The early stage, the Hummel site, has the distinctive Owasco Herringbone, Owasco Corded Collar, Hummel Corded, and Bristol Linear. Gradually, in roughly the same area or just south of it, developed the Woodley, Belcher, California Ranch, Richmond Mills, Dansville Fort, and Locke sites which have the distinctive Cayuga Horizontal and Richmond Incised types. During early historic times there was a shift eastward east of Cayuga Lake. During the late prehistoric times the Genoa Frilled type developed, while historic times saw the rise of Myer's Station Notched Collar and Ithaca Linear.

The culture ancestral to the early Seneca Dansville Flats site has still to be established. Hints are that it may be similar to the Sackett Farm but that is yet to be adequately demonstrated. Dansville and Long Point have Dansville Corded, Sparta Dentate, and Iroquois Linear as distinctive types. However, the types characteristic of the early historic sites, such as Factory Hollow, Adams, Dutch Hollow, and Cornish—namely, Ontario Horizontal, Long Point Horizontal, Long Point Notched, Dutch Hollow Notched, and Seneca Barbed Collar, are present even in the earliest sites. At later historic times, Warren and the Dann site, the Seneca Barbed Collar becomes the dominant type. In terms of tribal movement, the Seneca appear to be moving northward towards Rochester from their early home near Dansville.

In Ontario the earliest Iroquois site is Uren, which appears to have developed from the Owasco of that area. Distinctive of this horizon are Uren Dentate, Uren Oblique, Uren Corded, Uren Noded, and Iroquois Linear. Carrying on into the next horizon of the Pound and Middleport sites are Ontario Oblique, Ontario Horizontal, and Middleport Crossed. This period also marks the first prominence of Pound Necked, Lawson

Incised, and Middleport Oblique. It is evident that about this time the Huron and the Neutral separated. In the next period the Huron gradually moved northward from Toronto and are represented by the Black Creek and Woodbridge sites. This early period is characterized by Black Creek Necked and Huron Oblique. These in turn give way to the prehistoric Seed, Sidey-Mackay, and the historic Warminster and Orr Lake sites, which have Warminster Crossed, Sidey Noded, and Warminster Horizontal as distinguishing types.

In the meantime, in the lower Ontario Peninsula, Pound has developed into the Southwold Earthworks, Lawson, and historic Buffum Street sites, which have Lawson Incised, Lawson Opposed, and Niagara Collared as their dominant types. Shortly after the time period of the Southwold Earthworks, the Erie evidently separated from the Neutral, spread southwest along the south shore of Lake Erie, and developed such distinctive pottery types as Ripley Corded, Ripley Triangular, and Ripley Collared, though continuing to use Lawson Incised, Niagara Collared, and Ripley Plain in large amounts.

The general picture of Iroquois development shows a tendency to more and more heterogeneity. The Erie, Neutral, and Huron are closely related, but the Huron shows some relationship with the Oneida and Onondaga. The Oneida, Onondaga, and Mohawk are again closely related, and Mohawk shows some similarity to the Cayuga. Cayuga (Susquehannah) and Seneca show a close relationship, and the low-collared types of the Seneca point to an affiliation to the west with either the Erie or Neutral. It would be most interesting to compare their ceramic relationship with other trait resemblances as well as with the linguistic connections. The following charts (Figures 22 and 23) illustrate the relationships of the tribes both in time and space.

During the past few years, work to the south and east of the Iroquois area has brought to light pottery from documented historic Algonquin sites as well as developmental stages of these historic components or foci. In the light of the previous hypothesis of northeast cultural development (i.e., that the Owasco, Point Peninsula, and earlier cultures were Algonquins who were displaced by incoming Iroquois and pushed out of the upper New York state area), it is most interesting to compare the development of Iroquois culture and its historic tribal ceramic complexes with those of the Algonquins. Ritchie in 1947 excavated a historic Muncie site near Fort Jarvis, Pa.¹ Ceramically, the Muncie was very close to the Mohawk; Cayadutta Otstungo, Fonda, and Chance Incised being the dominant types. However, the Otstungo Notched and Rice Diagonal types are missing. Ritchie believes this component (like the Mohawk) developed from a Castle Creek base. The author and John Witthoft excavated in the same year a possible historic Unami village near Durham, Pa.² It had pottery exceedingly similar to the historic Mohawk, although it appeared to have developed from a non-Owasco type of culture. E. Carpenter and J. Schaffer in 1946 excavated a historic village near Kingston, N.Y., that may have been Mahican.³ The pottery from this site was of Mohawk types only, both early and late. In the Westchester County, New York City, and eastern Long Island area,

¹ W. A. Ritchie: "The Bell-Philhower Site, Sussex County, New Jersey." *Prehistoric Research Series*, Vol. III, No. 2, Indiana Historical Society, Indianapolis, Ind., 1949.

² J. Witthoft: Unpublished manuscript.

³ Mr. E. Carpenter: Unpublished manuscript.

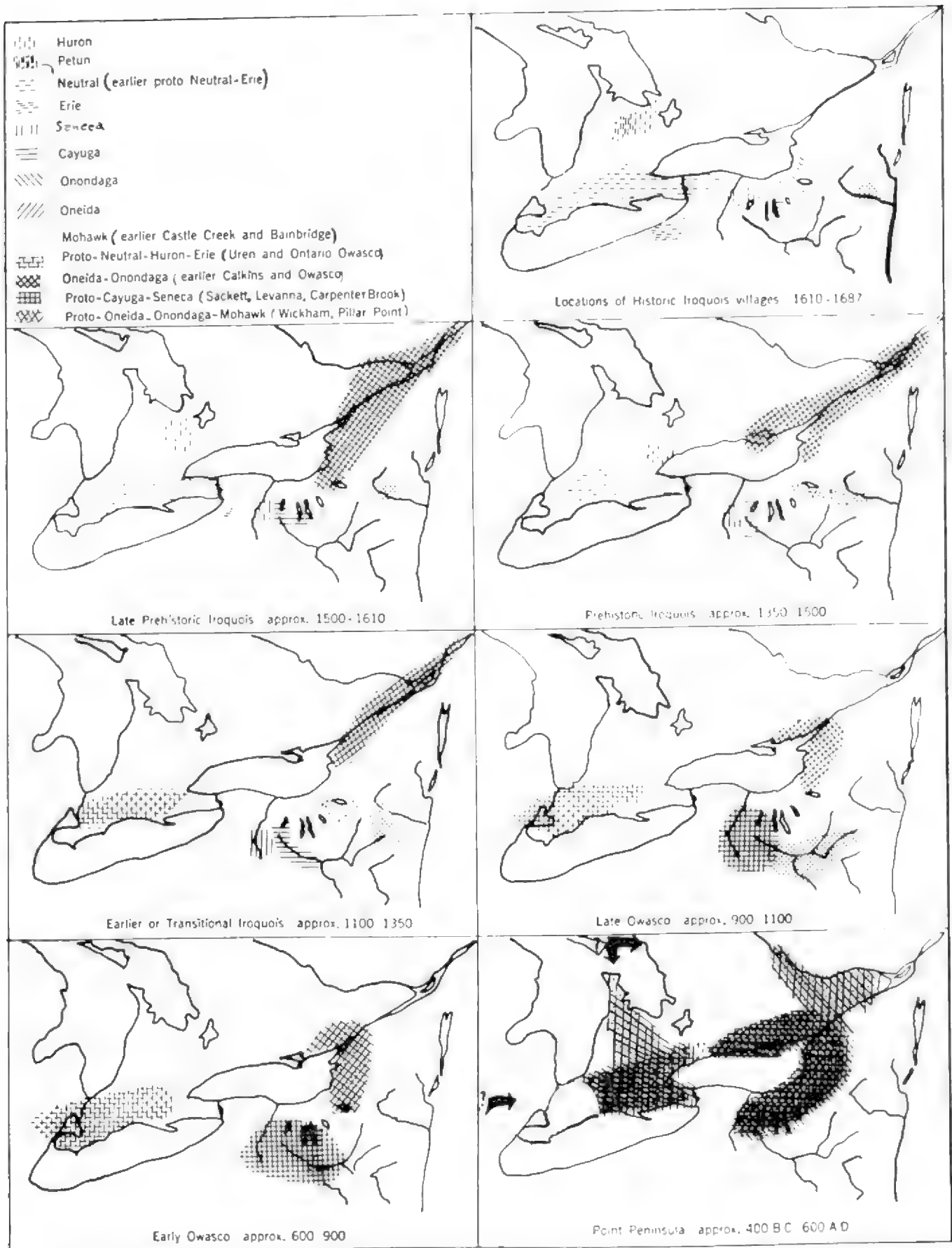


Figure 22. A possible reconstruction of Iroquois prehistory in time and space.

Carlyle Smith has correlated the Clason's Point Focus with that of the western Metoac and Wappinger.¹ About half the pottery from these sites is Otstungo, Cayadutta, or Fonda Incised and Otstungo Notched, while

¹C. Smith: "The Archæology of Coastal New York." Anthropological Papers of the American Museum of Natural History. Vol. 43, No. 2. New York. 1950.

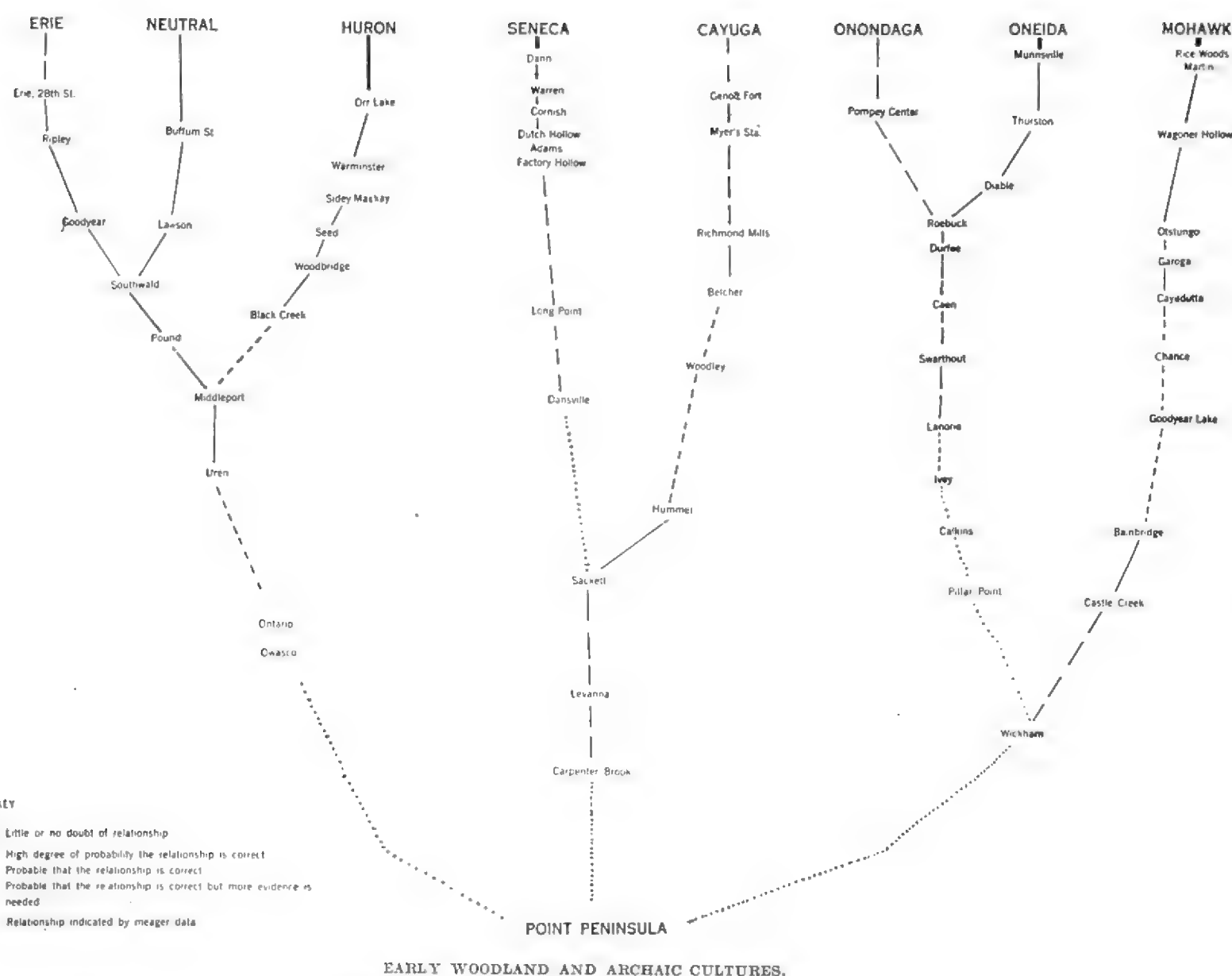


Figure 23. The development of the Iroquois based on ceramic information (obtained before 1948).

the other half is similar to Mohawk. Smith believes the Clason's Point Focus to have developed from the Bowman's Brook Focus, which is not Owasco, although they have a few pottery types in common.

On the Connecticut Coast and eastern Long Island, Rouse has correlated the Niantic Focus with the Nehantic tribe and the Fort Shantok Focus with the Mohegan, Pequot, and eastern Metoac.¹ The pottery of the Nehantic with medium high collars, castellations, and incised designs is similar to Mohawk and Onondaga-Oneida pottery. However, the Nehantic pottery is shell-tempered. The pottery is Iroquois macroscopically; microscopically it is not. Rouse and Smith believe the Niantic Focus developed from the Sebonac Focus which has only a superficial resemblance to Owasco pottery. The Fort Shantok Focus pottery is shell-tempered with many Iroquoian features, such as collars with basal nodes, high castellations with vertical lugs at their apexes, and appliquéd ridges round the rims. The pottery, although Iroquoian, can be tied to no specific Iroquois types or complex of types. Recently Johnson unearthed

¹I. Rouse: "Ceramic Traditions and Sequences in Connecticut." Bulletin of the Archaeological Society of Connecticut, No. 21, New Haven, 1947.

burials with historic goods and pottery at the Titicut site in Massachusetts.¹ The pottery probably was made by some of the historic Algonquins of the area and resembles that of Onondaga. In eastern Massachusetts, Bullen has unearthed historic goods in association with pottery at the Clark's Pond site and the upper levels of Maud Eaton.² The sherds bear a superficial resemblance to Mohawk types. Thus it appears that, for much of the area east and south of the Iroquois, the Algonquins in historic times had pottery styles more similar to the Iroquois than to the Owasco. Generally speaking, the Owasco-Iroquois trends mentioned previously are equally evident in this region. However, with the possible exception of the Muncie, there is little evidence that the Algonquin cultures developed from Owasco or Point Peninsula, the so-called "Algonquin cultures."

Comparisons of Iroquois pottery types with those of late groups to the south and west of the Iroquois area reveal few similarities. The Whittlesey Focus along Lake Erie displays similarities to Iroquois, namely, incised opposed triangular designs on a vertical rim and globular-bodied vessels.³ Ripley Corded Collar does appear in that area. However, in the main, the pottery is not similar. Fort Ancient⁴ and Monagahella Woodland display even less similarities.

Iroquois pottery (and Iroquois culture) have often been classified as Mississippian.⁵ In favour of the ceramic classification has been the fact that Iroquois pottery has globular bodies, with incising as a type of decoration. It also has been noted that handles appear on Huron pottery, but I must point out that this is rare in Huron and (except for a few Onondaga pots that may be Huron trade pots) is almost non-existent among the other ceramic series. Fort Ancient trade sherds have, of course, been found on Iroquois sites, but these can hardly be construed as Iroquois pottery. Against a classification of Iroquois pottery as Mississippian is the presence of grit temper, carelessly smoothed bodies, and decoration on the neck and area paralleling the lip; the use of the collar, and the absence of bowls, bottles, small-mouthed jars, effigies, and curvilinear designs. In fact, all the above traits, positive and negative, have been noted by Cole and Deuel as being Woodland.⁶

In conclusion, it would appear that we now have some evidence concerning the origin and development, differentiation, and distinctive characteristics of the Iroquois on the basis of ceramic trends, features, and types. Generally speaking, each tribe (Onondaga-Oneida excepted) had its own distinctive pottery types. The identification of the ceramic complexes with tribal units appears on a firm foundation. Evidence for the time and place of tribal differentiations is not so convincing, because it is based upon ceramic trends of types, sites with overlapping pottery types, and ceramic resemblances. The origin and development of the Iroquois, both generally and tribally, is still more hypothetical. The archaeological evidence of the Northeast has been interpreted as demon-

¹ Mr. F. Johnson of the Peabody Museum of Andover, Mass., was most co-operative in showing these materials from his excavation.

² R. P. Bullen: "Excavation in Northeastern Massachusetts." Papers of the Robert S. Peabody Foundation for Archaeology, Vol. 1, No. 3, Andover, Mass., 1949.

³ Dr. E. F. Greenman of the University of Michigan was most kind in discussing the materials of this focus with me.

⁴ J. B. Griffin: "The Fort Ancient Aspect," University of Michigan Press, Ann Arbor, Mich., 1943.

⁵ W. A. Ritchie: "A Perspective of Northeastern Archaeology." American Antiquity, Vol. 4, No. 2, Menasha, Wis., 1938.

⁶ F. C. Cole and T. Deuel: "Rediscovering Illinois." University of Chicago Press, 1935.

strating a cultural continuity from the Point Peninsula horizon to the historic Iroquois horizon. A tentative historical reconstruction based on the archaeological data now available reveals the following situation.

1. The first culture that can possibly be connected with historic remains is Point Peninsula which, with little regional variation, was spread over southern and eastern Ontario and northwestern and central New York. This homogeneous widespread Point Peninsula culture may be considered to be proto-Iroquois.
2. Gradually four regional variants with an Owasco, or an Owascoïd, type of material culture developed from Point Peninsula. These developments may represent the first differentiations of the proto-Iroquois in the tribal and proto-tribal units. The easternmost regional variant (an Owasco culture represented by the Wickham, Castle Creek, and Bainbridge sites) is probably ancestral to the Mohawk, while the related north-central Owascoïd variant (represented at the Pillar Point and the Calkins Farm sites) may be ancestral to the Onondaga-Oneida. In western New York the Levanna to Canandaigua Owasco sequence may have given rise to the material culture of the Cayuga and Seneca; while in the Ontario Peninsula area there is evidence that an Owasco variant (represented in the lowest levels of Middleport, Krieger, and Goessens sites) is ancestral to the material cultural units of the Neutral-Erie and Huron.
3. There is a general tendency for these Owascoïd variants to develop an Iroquoian type of material culture and to differ further in their material cultures. These further differentiations of the Iroquois general culture type represent the cultural assemblages of specific Iroquois tribes. Thus the Mohawk continued their development from an Owasco base, while the Onondaga-Oneida did the same until almost historic times when they split into two tribal units. The Seneca and Cayuga (and possibly Susquehannah) seem to have separated from each other in late Owasco times just before their development of an Iroquoian type of material culture; the tribal differentiations in Ontario seem to have been later. The Huron and Neutral-Erie separated just after the Iroquois cultural type had developed in that area and the Neutral and Erie separated somewhat later. This general reconstruction has been labelled the "In Situ" theory of Iroquois pre-history.

This hypothetical reconstruction, although the one best fitting the meagre data available, requires that considerably more pottery from many sites be studied, that the analysis of other material traits be carried out, and that industrious search be made for Iroquois sites having stratigraphy, in order that this hypothesis may be confirmed.

APPENDIX

In the following pages are the sketches of most of the lip, neck, and collar decorations, and cross-sections of the rims. In the previous pages these sketches have been referred to in order to facilitate description and illustrate most of the range of variations of the types. However, since these drawings are somewhat generalized and since certain undefined terminology has been used to refer to the shape and decorative feature, further explanation seems in order.

The rim sections (Figure 24) may be considered ideal types in that every minute variation has not been included. Inclusion of every variation was not possible, as I had no mechanical technique of rapidly recording the rims. Further, many of the rims from the different sites and collections were recorded at different times under various conditions. This puts very definite restrictions on the exactness of recording. Also, castellations on the mouths of vessels make it very difficult, if not impossible, to record the exact degree of inclination of rim sherds. However, in spite of these difficulties, six factors of the rim were always considered.

1. One factor concerned the relationship of the collar to the neck, i.e., the sharpness of the step or break between the exterior surface of the neck and the lower exterior surface of the collar. Three general classes of this relationship were recognized. One group has been referred to in the text as having "well defined collars." This class usually has a noticeable angularity or well-defined bump at the junction of the collar and neck. In Figure 24, Nos. 1 to 19, 22 to 30, 34, 35, 90, 91, 95 to 104, 110, 112 to 122, and 125 are examples of this class. The second group was noted as having "overhanging collars," and it has the surface of the neck overhung at an acute angle to the lowest part of the collar. In Figure 24, Nos. 36, 37, 83 to 89 are examples of this group. The final class has the surface of the neck gradually merging into the collar without a sharp break in contour. This class was called "poorly defined collars" in the text, and Nos. 20, 24, 26, 31, 32, 33, 38 to 56, 105 to 109, 111, 123, and 124 of Figure 24 are examples of it. Measurement of exactly how acute or sharp the angle or curvature of the neck-collar junction was not possible and was, of course, an estimate by the author.
2. The second factor always noted was the contour of the exterior surface of the collar. Exterior surfaces were classified as being bulging (See Figure 24, Nos. 1 to 4, 26, 31, 68, 80, 86, 101, 105, 122), convex (See Figure 24, Nos. 5, 6, 20 to 25, 30, 32, 33, 40 to 44, 48, 50 to 52, 56, 87, 88, 95, 100, 102, 106 to 109), straight (See Figure 24, Nos. 7, 15 to 17, 27 to 30, 37, 38, 46, 53 to 55, 84, 89 to 91, 97, 98, 103, 104, 111, 114, 115, and 125), or concave (See Figure 24, Nos. 8 to 12, 18, 19, 34 to 36, 39, 45, 47, 49, 85, 92 to 94, 96, 99, 110, 112, 113, 116 to 120, 123, 124).
3. A third factor always considered was the contour of the interior surface of the collar. There were three classes of this factor: "channelled" or "concave" collar interiors (See Figure 24, Nos. 1 to 6, 9, 10, 13 to 17, 20, 21, 23 to 26, 29 to 33, 37, 40 to 45, 50 to 52, 56, 87 to 89, 95 to 109); straight or slightly convex

interiors of collars (See Figure 24, Nos. 7, 8, 19, 38, 39, 46, 48, 54 to 56, 90 to 94, and 110), and convex collar interiors (Figure 24, Nos. 11, 12, 18, 27, 28, 47, 83 to 86, 111 to 125).

4. The fourth factor considered was the "collar height." In reality, this is the relation of the height of the collar to the circumference of the mouth of the vessel. However, since I was working mainly with castellated rim sherds, the circumference could only be estimated. Unfortunately, in making this estimation I was forced to use actual collar heights along with the proportion of collar height to thickness of the collar. In the text I have spoken of "very high collars," that is collars over $3\frac{1}{2}$ inches in actual height or with a proportion greater than 12 (collar height) to 1 (collar thickness). In Figure 24, Nos. 52 to 56 are examples of very high collars. Another kind of collar height was called "high collars." These collars were between $2\frac{1}{2}$ and $3\frac{1}{2}$ inches in height and had a proportion of 10 (collar height) to 1 (collar thickness). Examples would be Nos. 40 to 51 in the Figure 24. Another class was called "collars of medium height," i.e., collars between $1\frac{1}{2}$ and $2\frac{1}{2}$ inches in height or having a proportion of roughly 8 (collar height) to 1 (collar thickness). For example see Nos. 1 to 39 in Figure 24. The final class was called "low collars" which had a height of less than $1\frac{1}{2}$ inches or less than the proportion of 6 (collar height) to 1 (collar thickness). Examples of "low collars" are Nos. 65 to 69 and 83 to 125 in Figure 24.
5. The next factor always considered was the lip. Lips were classified as being round or pointed (See Nos. 1, 24, 28, 32 to 35, 40, 51, 52, 57, 59, 61, 99, 100, 109, 117, 118, and 122); insloping (See Nos. 5, 6, 8, 12, 17, 22, 30, 39, 107 and 112); straight (See Nos. 2, 7, 15, 20, 22, 23, 25, 26, 29, 31, 37, 43, 46, 48, 55, 56, 85, 86, 92, 93, 98, 101, 104, 105, 108, 110, 113 to 117, 119 to 121, 124, and 125); outsloping (See Nos. 3, 4, 10, 13, 14, 16, 19, 21, 36, 44, 47, 50, 66, 69, 88 to 90, and 121); and flattened or thickened (See Nos. 9, 45, 70 to 82, 103, 106, and 114)—all of Figure 24.
6. The final factor considered was the presence or absence of a collar (Nos. 1 to 56, 66 to 69, and 93 to 125, of Figure 24, are considered as having collars, while all the others do not have collars).

The designs need less explanation than the rim cross-sections. I endeavoured to copy as closely as possible the actual designs on the collars and lips (Figures 25, 26, and Nos. 162 to 221 of Figure 27), those on the thickened lips (Figure 27, Nos. 222 to 232), and those on the neck (Figure 27, Nos. 233 to 241). I am well aware that certain pots showing the whole collar design might have two or more of these designs. However, most of my sample was based on relatively small fragments of rims. Furthermore, it was believed that the various designs that might appear on a single pot, if my sample of sherds was adequate, would show the same relative proportions in time and space and thus be included as design variants of the same type. Designs under castellations were more difficult to record and showed amazing variety with little spatial or temporal significance. As

far as possible, I recorded these but feel certain that others exist not included in my figures of designs. Neck designs were also difficult to record accurately; again I feel that certain designs are absent from my lists. In spite of these various limitations concerning the designs, I feel that in Figures 25, 26, and 27, I have most of the designs common to Iroquois pottery. Perhaps when larger samples from sites and more whole pots are available, this list of designs may be supplemented, its accuracy checked, and the various combinations of designs delineated.

In conclusion, let me say a word about the samples of sherds from the sites and the trends. Throughout my study, the problem of how many rim sherds constituted an adequate sample perplexed me. Nowhere was I able to find a statistical formula indicating what was an adequate sample. However, by trial and error I was gradually able to determine how many rim sherds appeared to represent an adequate sample. My general trial and error method of determining an adequate sample proceeded along the following lines. First, I recorded on my Recording Charts a random sample of a hundred sherds from a particular site. I then worked on the percentage of the various combinations of rim shape and designs. Next, I recorded a second hundred sherds from the same site and worked out the percentages of the various shape-design combinations. These percentages I compared with the first set of percentages. If they stayed the same, it appeared that a 100-sherd lot was adequate (though I usually worked on the percentages of another hundred to check). However, if the percentages were not the same, the process was continued until the percentages from the last two groups were similar. On the basis of this experimenting, it appeared that from 300 to 500 decorated rim (collar) sherds were an adequate sample. There was some tribal variation as to the number of sherds constituting an adequate sample. Roughly, it appeared that a sample of 400 to 500 sherds constituted an adequate sample for Onondaga-Oneida sites, while about 250 to 300 sherds were sufficient for Seneca and Erie collections. When adequate samples of sherds from a number of sites belonging to the same tribe were available (such as in part of the Huron, Neutral, and Erie series), the pottery trends showed relatively smooth trends. It is hoped that sufficient sherds from many sites of all tribes will finally be available so that all our pottery type trends will show such a picture. At present this is not the case. Experimentation with the sample also reveals that about forty to eighty sherds were sufficient to identify the tribal affiliation of a single site, while from 80 to 150 sherds were enough to reveal the general temporal position, as well as the tribal affiliation. Closely connected with the problem of an adequate sample of decorated rim sherds was the problem of whole pots (unfortunately this problem usually did not bother me). After counting the decorated rim sherds from fifty reconstructed pots, I found that a single pot averaged about 19.7 rim sherds. Thus, in my data I usually counted a whole pot as twenty rim sherds. In rare cases (Seneca and Ripley sites) I was able to check the sherd count against the count of pots; 400 sherds seemed adequate, but twenty pots did not. In fact, thirty vessels (counted 500 rim sherds) seemed much nearer correct. Exactly what this means is hard to tell with my inadequate whole-vessels sample, though it tends to show that an estimate of twenty sherds to a whole pot is too large. Perhaps in future, larger samples may allow for resolving this problem and for making a more accurate estimate.

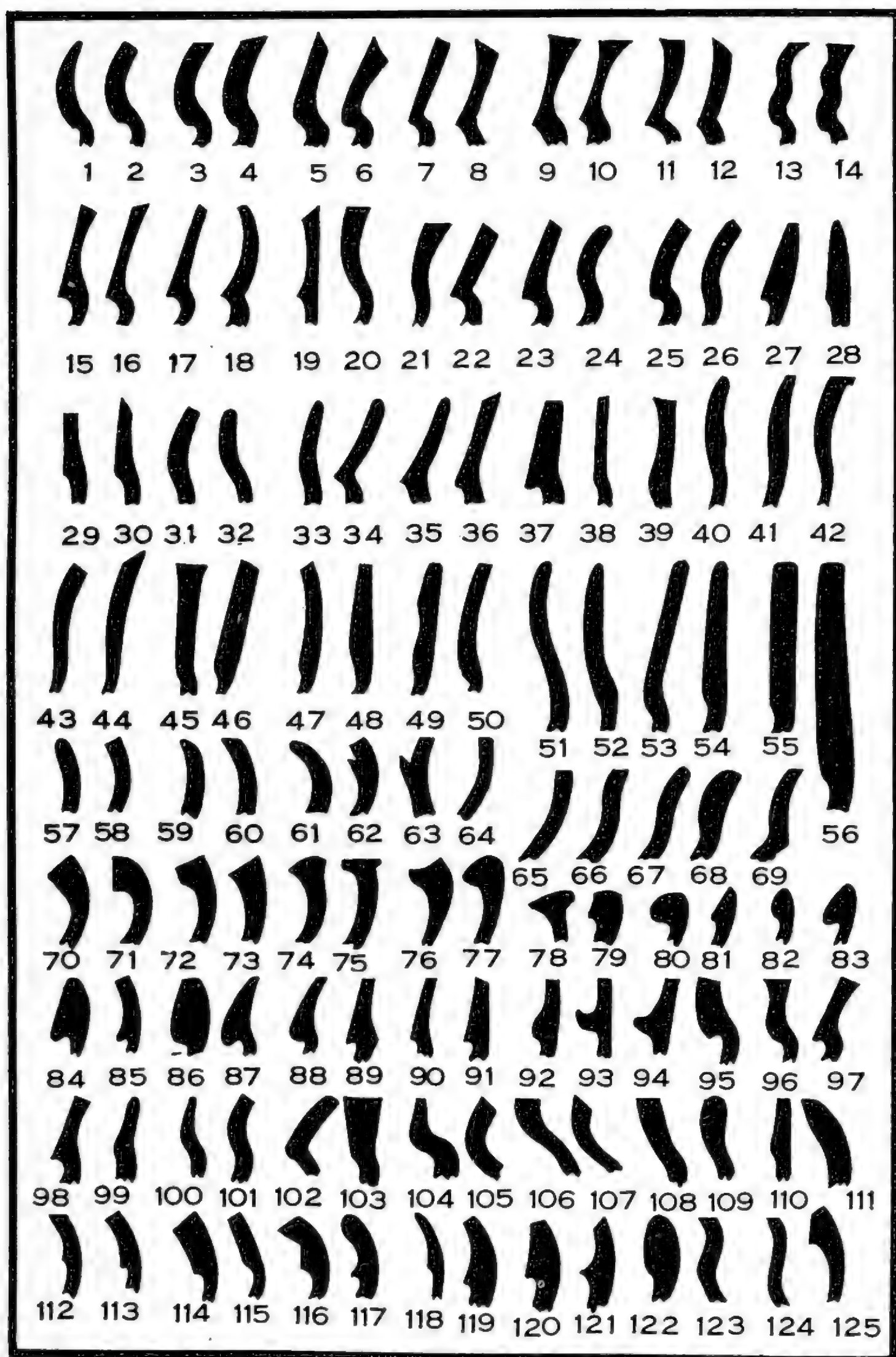


Figure 24. Iroquois rim cross-section.

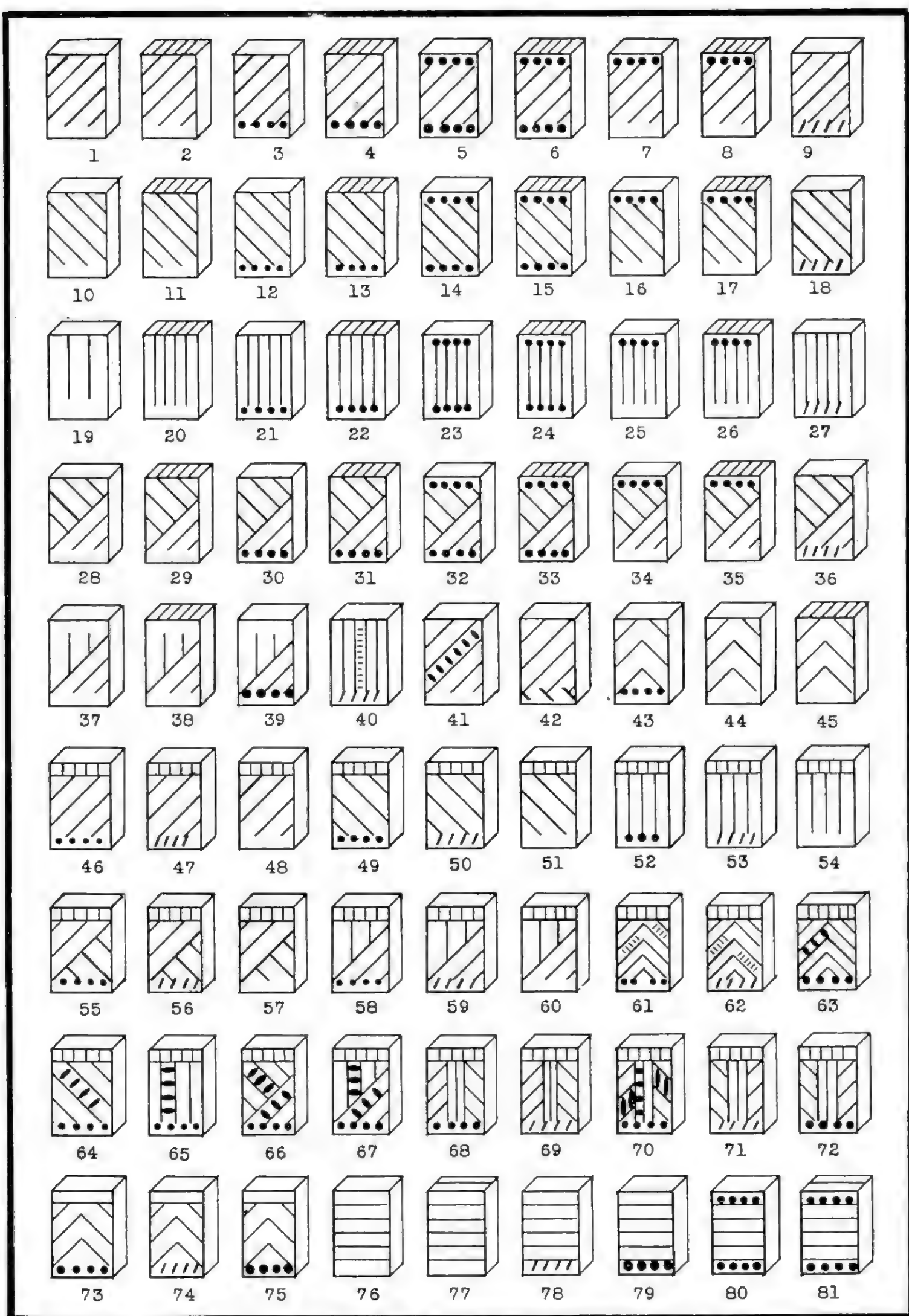


Figure 25. Iroquois designs.

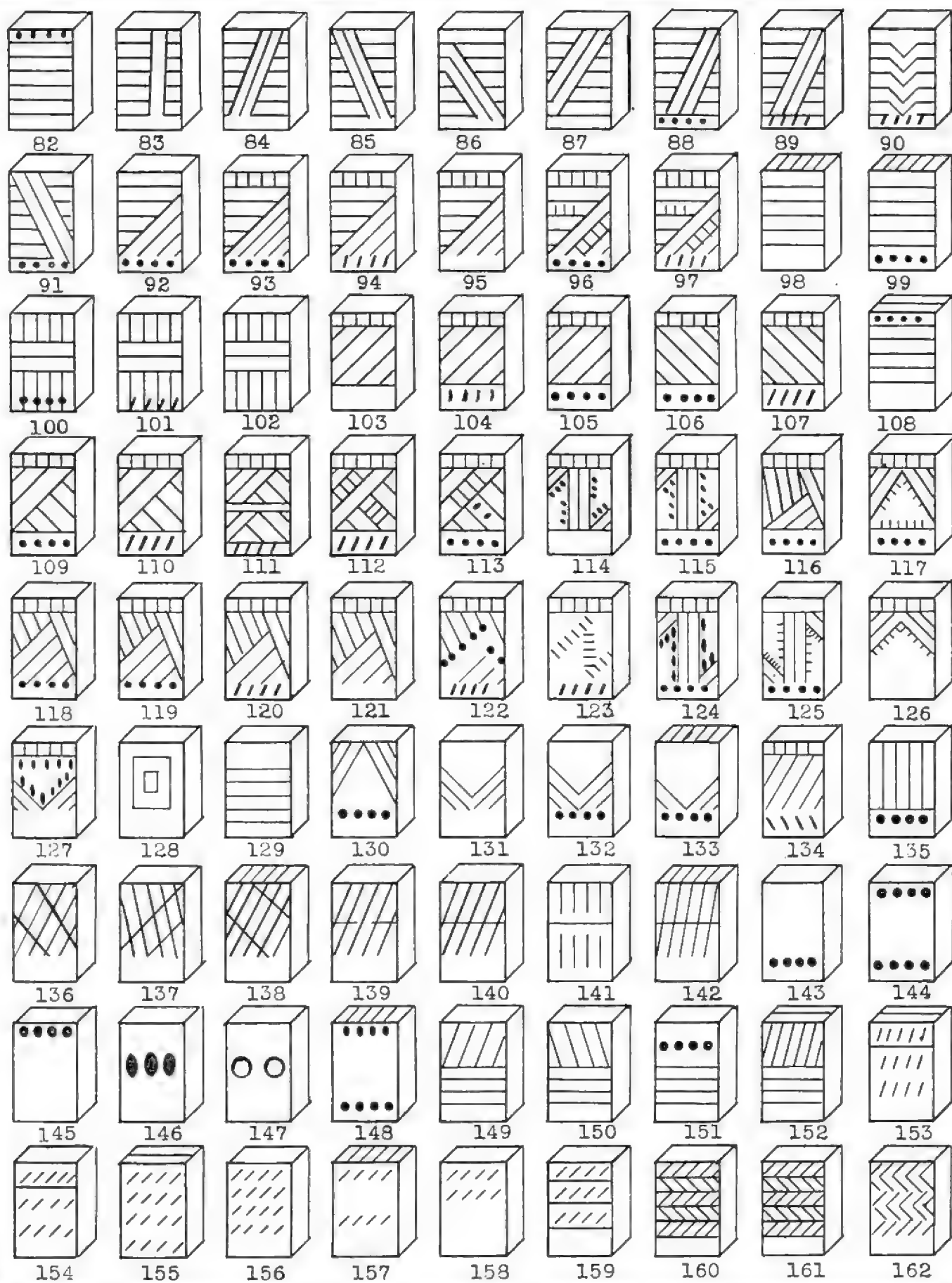


Figure 26. Iroquois designs.

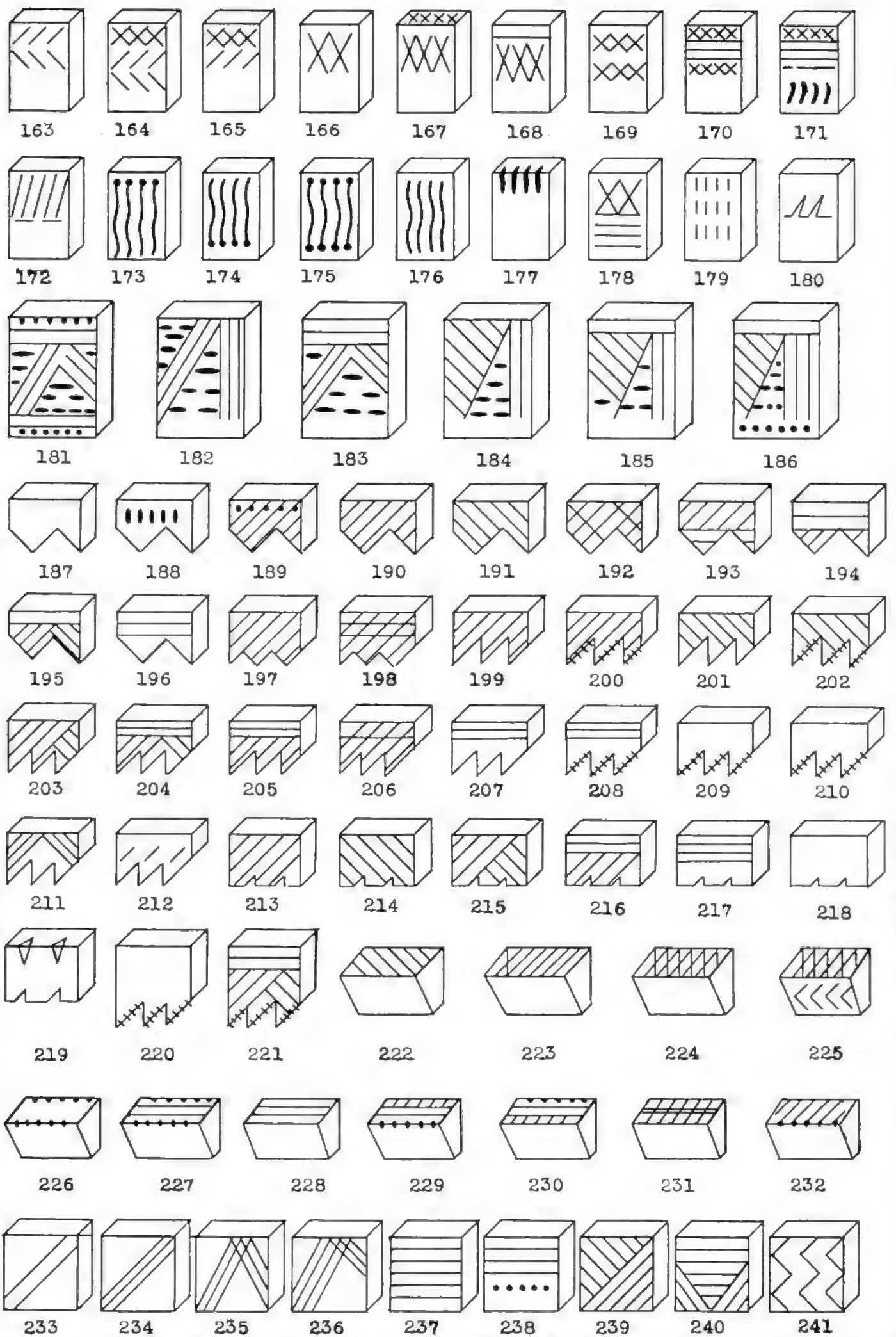


Figure 27. Iroquois designs.

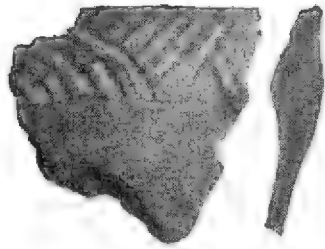
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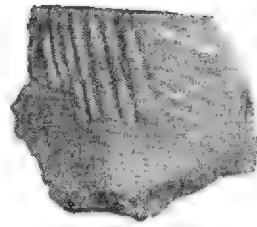
PLATE I

- Figure 1. Typical sherd of Lawson Opposed Type. From the Lawson site. Cat. No. of the National Museum of Canada, VIII-F-18944*p*.
- Figure 2. Variant of Lawson Opposed Type. From the Lawson site. Cat. No. of the National Museum of Canada, VIII-F-18944*o*.
- Figure 3. Variant of Lawson Opposed Type. From the Lawson site. Cat. No. of the National Museum of Canada, VIII-F-18550.
- Figure 4. Variant of Lawson Opposed Type. From the Lawson site. Cat. No. of the National Museum of Canada, VIII-F-18566.
- Figure 5. Variant of Lawson Opposed Type. From the Lawson site. Cat. No. of the National Museum of Canada, VIII-F-18944*i*.
- Figure 6. Variant of Lawson Incised Type. From the Lawson site. Cat. No. of the National Museum of Canada, VIII-F-17955*e*.
- Figure 7. Variant of Lawson Incised Type. From the Lawson site. Cat. No. of the National Museum of Canada, VIII-F-18564.
- Figure 8. Typical sherd of Lawson Incised Type. From the Lawson site. Cat. No. of the National Museum of Canada, VIII-F-17956*b*.
- Figure 9. Variant of Lawson Incised Type. From the Lawson site. Cat. No. of the National Museum of Canada, VIII-F-18246*d*.

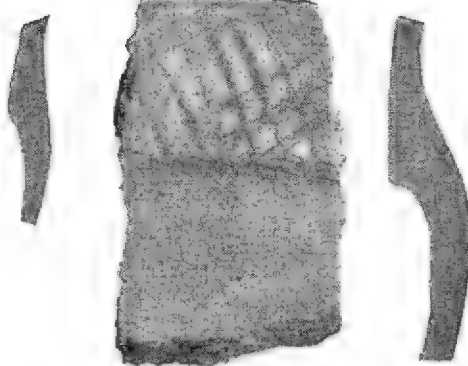
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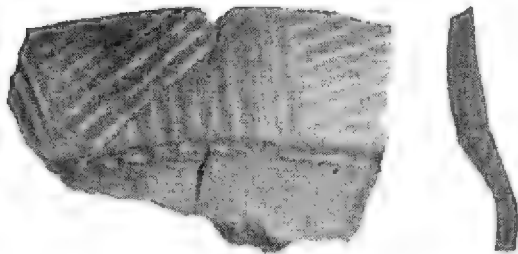
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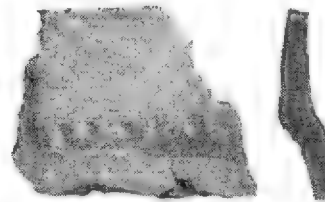
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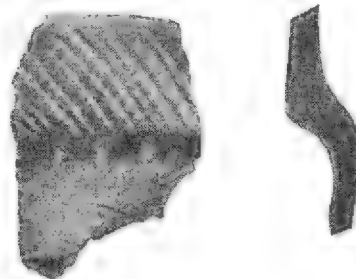
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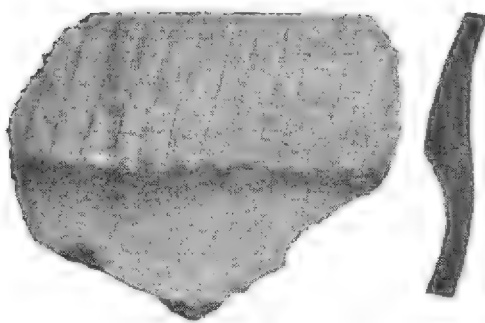
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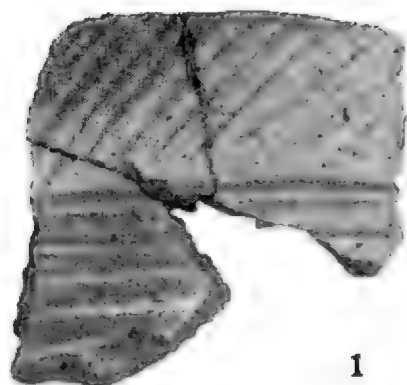


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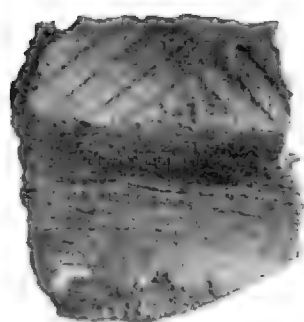
PLATE II

- Figure 1. Typical sherd of Pound Necked Type. From the Lawson site. Cat. No. of the National Museum of Canada, VIII-F-19673.
- Figure 2. Variant of Pound Necked Type. From the Lawson site. Cat. No. of the National Museum of Canada, VIII-F-1859*g*.
- Figure 3. Variant of Pound Necked Type. From the Middleport site. Cat. No. of the National Museum of Canada, VIII-F-29928.
- Figure 4. Variant of Pound Necked Type. From the Lawson site. Cat. No. of the National Museum of Canada, VIII-F-182211.
- Figure 5. Variant of Pound Necked Type. From the Lawson site. Cat. No. of the National Museum of Canada, VIII-F-18570*f*.
- Figure 6. Variant of Pound Blank Type. From the Lawson site. Cat. No. of the National Museum of Canada, VIII-F-18569*w*.
- Figure 7. Variant of Pound Blank Type. From the Lawson site. Cat. No. of the National Museum of Canada, VIII-F-181460.
- Figure 8. Variant of Pound Blank Type. From the Lawson site. Cat. No. of the National Museum of Canada, VIII-F-18566.
- Figure 9. Typical sherd of Pound Blank Type. From the Middleport site. Cat. No. of the National Museum of Canada, VIII-F-2781*a*.

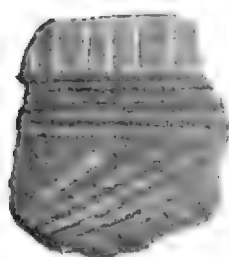
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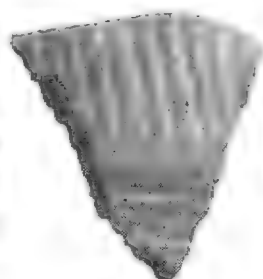
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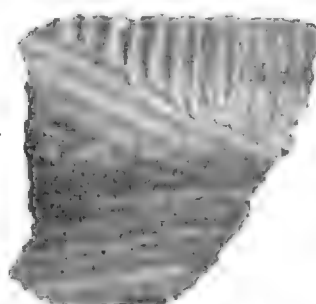
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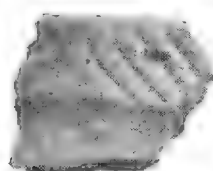
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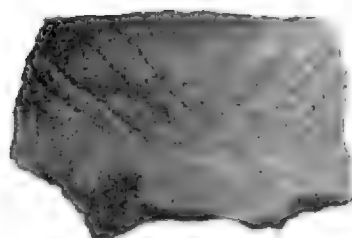
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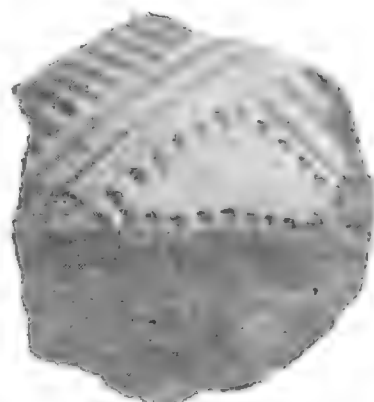
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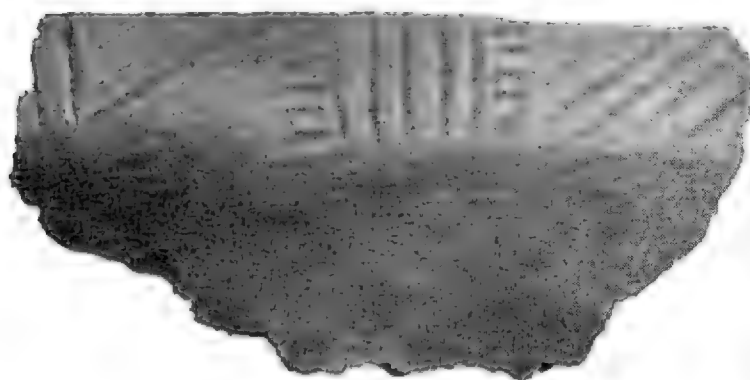
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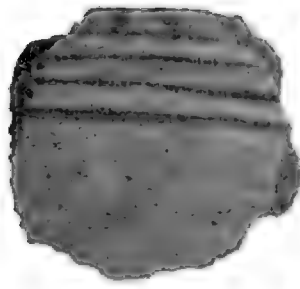
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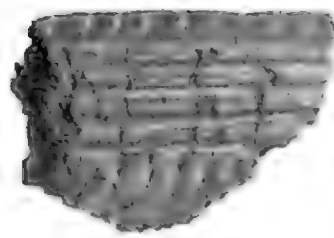
PLATE III

- Figure 1. Sherd of Ontario Horizontal Type. From the Middleport site. Cat. No. of the National Museum of Canada, VIII-F-24635*x*.
- Figure 2. Sherd of Ontario Horizontal Type. From the Middleport site. Cat. No. of the National Museum of Canada, VIII-F-24647*a*.
- Figure 3. Sherd of Ontario Horizontal Type. From the Lawson site. Cat. No. of the National Museum of Canada, VIII-F-18565*f*.
- Figure 4. Sherd of Ontario Horizontal Type. From the Middleport site. Cat. No. of the National Museum of Canada, VIII-F-24874*y*.
- Figure 5. Variant of Middleport Oblique Type. From the Middleport site. Cat. No. of the National Museum of Canada, VIII-F-24600*s*.
- Figure 6. Typical sherd of Middleport Oblique Type. From the Middleport site. Cat. No. of the National Museum of Canada, VIII-F-24874*z*.
- Figure 7. Variant of Middleport Oblique Type. From the Middleport site. Cat. No. of the National Museum of Canada, VIII-F-24634*d*.
- Figure 8. Variant of Middleport Oblique Type. From the Middleport site. Cat. No. of the National Museum of Canada, VIII-F-24874*v*.

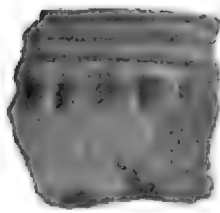
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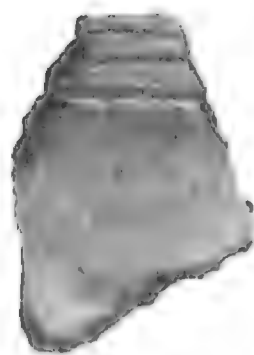
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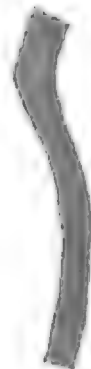
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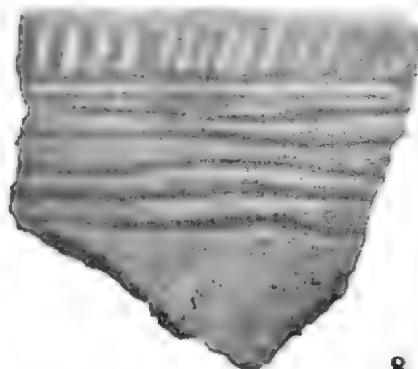
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PLATE IV

- Figure 1. Variant of Ontario Oblique Type. From the Uren site. Cat. No. of the National Museum of Canada, VIII-F-17210*a*.
- Figure 2. Typical sherd of Ontario Oblique Type. From the Uren site. Cat. No. of the National Museum of Canada, VIII-F-16811*e*.
- Figure 3. Variant of Ontario Oblique Type. From the Uren site. Cat. No. of the National Museum of Canada, VIII-F-16489*d*.
- Figure 4. Typical sherd of Ontario Oblique Type. From the Uren site. Cat. No. of the National Museum of Canada, VIII-F-17455*d*.
- Figure 5. Typical sherd of Ontario Oblique Type. From the Middleport site. Cat. No. of the National Museum of Canada, VIII-F-24607*j*.
- Figure 6. Sherd of Ontario Type with a variant rim form. From the Uren site. Cat. No. of the National Museum of Canada, VIII-F-16024.
- Figure 7. Uren Noded Type. From the Uren site. Cat. No. of the National Museum of Canada, VIII-F-17214.
- Figure 8. Uren Noded Type. From the Uren site. Cat. No. of the National Museum of Canada, VIII-F-17335*b*.
- Figure 9. Uren Noded Type. From the Uren site. Cat. No. of the National Museum of Canada, VIII-F-16747*c*.
- Figure 10. Uren Noded Type. From the Uren site. Cat. No. of the National Museum of Canada, VIII-F-17221*e*.
- Figure 11. Uren Noded Type. From the Uren site. Cat. No. of the National Museum of Canada, VIII-F-17213*c*.

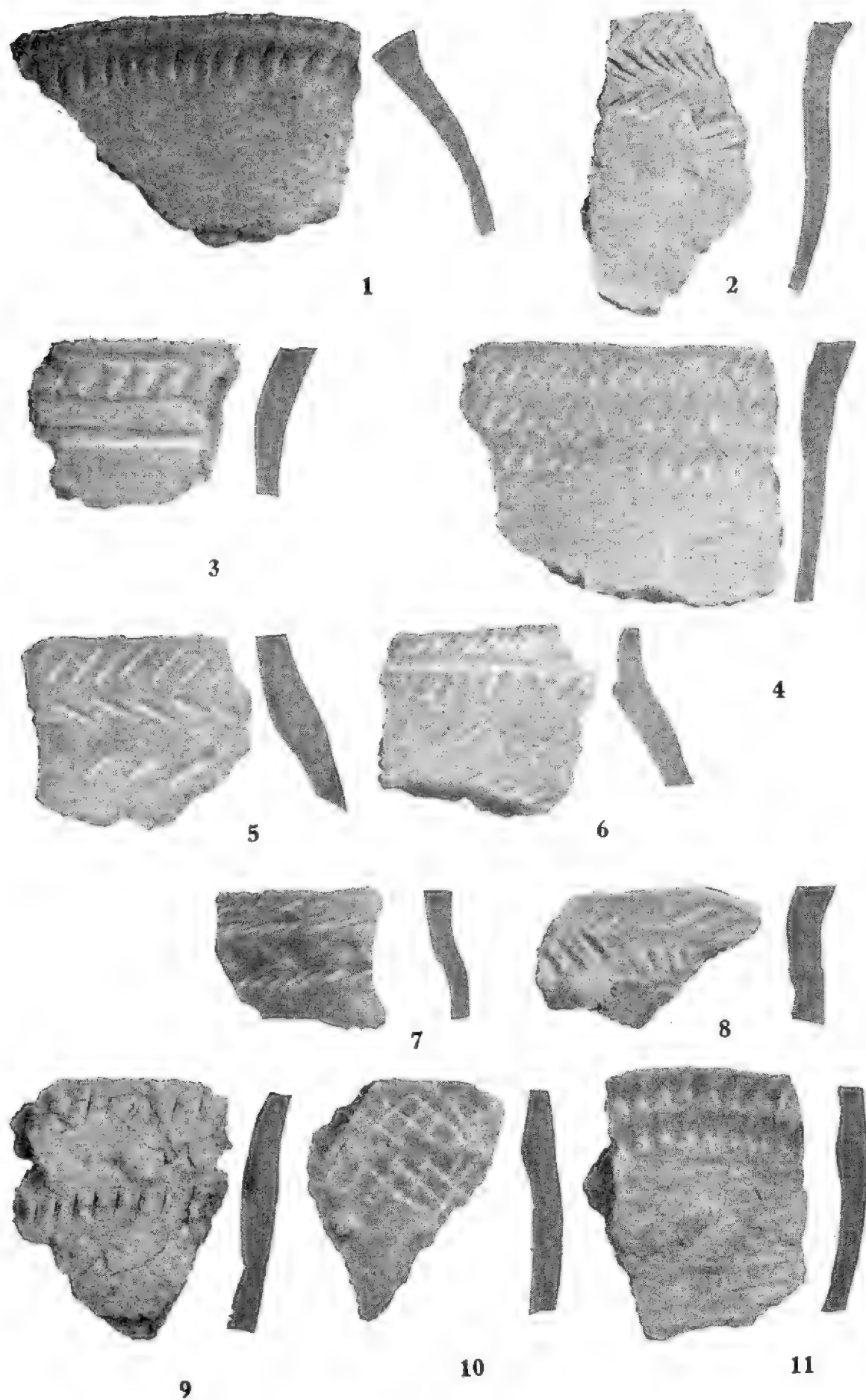


PLATE V

- Figure 1. Middleport Criss-Cross Type. From the Middleport site. Cat. No. of the National Museum of Canada, VIII-F-24442*d*.
- Figure 2. Middleport Criss-Cross Type. From the Middleport site. Cat. No. of the National Museum of Canada, VIII-F-24459*a*.
- Figure 3. Middleport Criss-Cross Type. From the Middleport site. Cat. No. of the National Museum of Canada, VIII-F-24451*a*.
- Figure 4. Middleport Criss-Cross Type. From the Middleport site. Cat. No. of the National Museum of Canada, VIII-F-24450*a*.
- Figure 5. Variant of Iroquois Linear Type. From the Uren site. Cat. No. of the National Museum of Canada, VIII-F-16804*f*.
- Figure 6. Typical sherd of Iroquois Linear Type. From the Middleport site. Cat. No. of the National Museum of Canada, VIII-F-24452.
- Figure 7. Typical sherd of Uren Corded Type. From the Uren site. Cat. No. of the National Museum of Canada, VIII-F-16931*a*.
- Figure 8. Typical sherd of Uren Corded Type. From the Uren site. Cat. No. of the National Museum of Canada, VIII-F-16750*b*.
- Figure 9. Variant of Uren Corded Type. From the Uren site. Cat. No. of the National Museum of Canada, VIII-F-17129*b*.
- Figure 10. Variant of Uren Corded Type. From the Lawson site. Cat. No. of the National Museum of Canada, VIII-F-18812*a*.
- Figure 11. Uren Dentate. From the Uren site. Cat. No. of the National Museum of Canada, VIII-F-16756*a*.
- Figure 12. Uren Dentate. From the Uren site. Cat. No. of the National Museum of Canada, VIII-F-17215*c*.

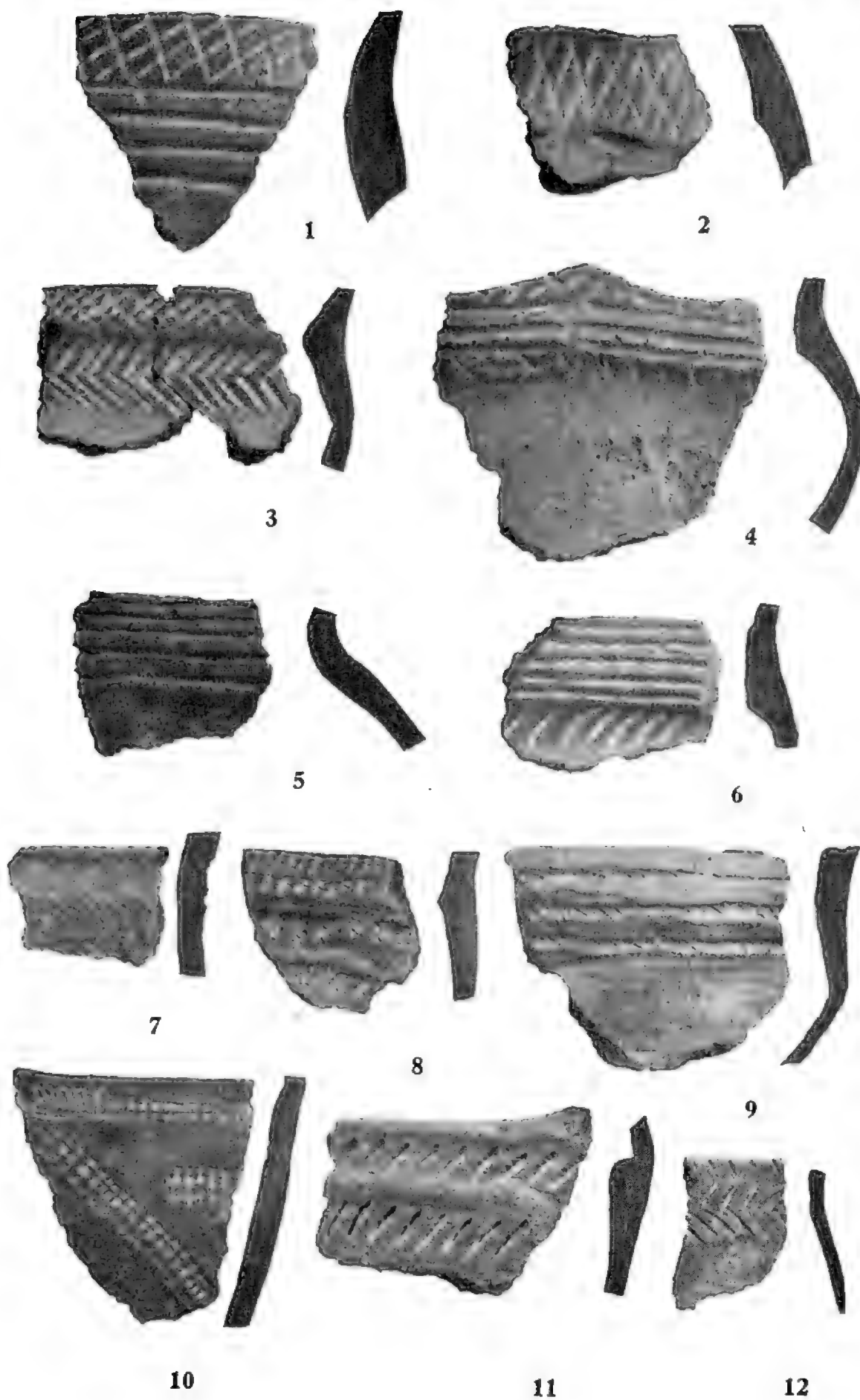
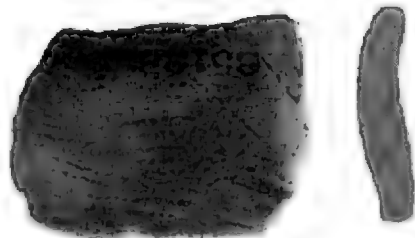
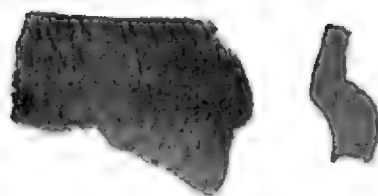


PLATE VI

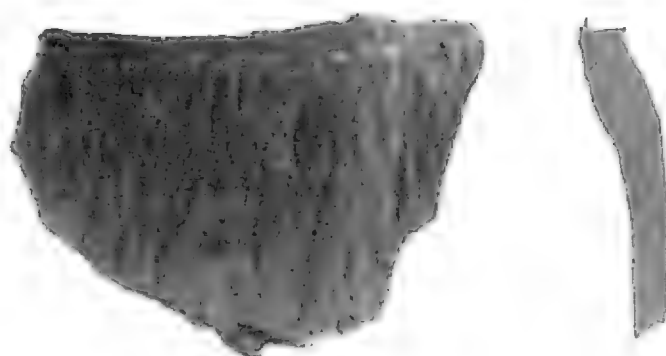
- Figure 1. Ripley Corded. From the Ripley site. In the collection of the Peabody Museum of Harvard.
- Figure 2. Ripley Corded. From the Ripley site. In the collection of the Peabody Museum of Harvard.
- Figure 3. Ripley Corded. From the Ripley site. In the collection of the Peabody Museum of Harvard.
- Figure 4. Ripley Collared. From the Dutch Hollow site. In the archæological collection of R. Hill of Rochester, New York.
- Figure 5. Ripley Collared. From the Dutch Hollow site. In the archæological collection of R. Hill of Rochester, New York.



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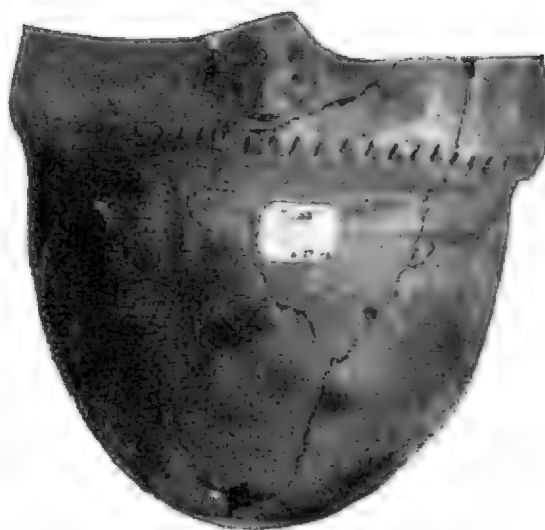
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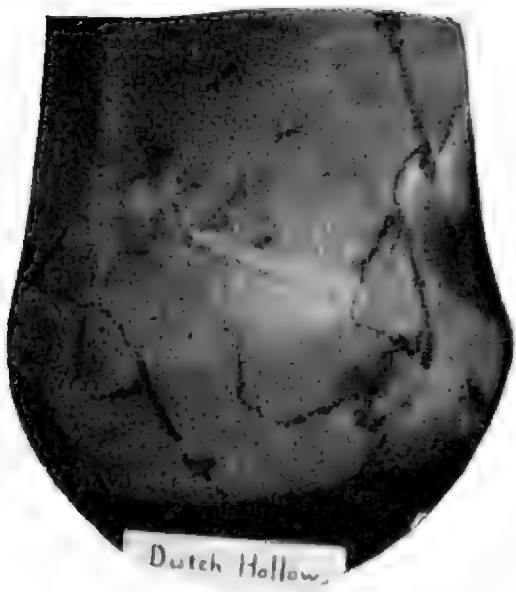
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PLATE VII

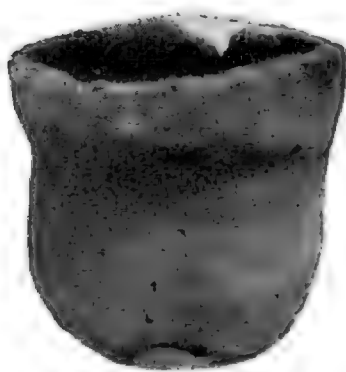
- Figure 1. Ripley Plain. From the Dutch Hollow site. In the archæological collection of R. Hill of Rochester, N.Y.
- Figure 2. Ripley Plain. From the Dutch Hollow site. In the archæological collection of R. Hill of Rochester, N.Y.
- Figure 3. Niagara Collared. From the Dutch Hollow site. In the archæological collection of R. Hill of Rochester, N.Y.
- Figure 4. Niagara Collared. From the Dutch Hollow site. In the archæological collection of R. Hill of Rochester, N.Y.
- Figure 5. Niagara Collared. From the Dutch Hollow site. In the archæological collection of R. Hill of Rochester, N.Y.



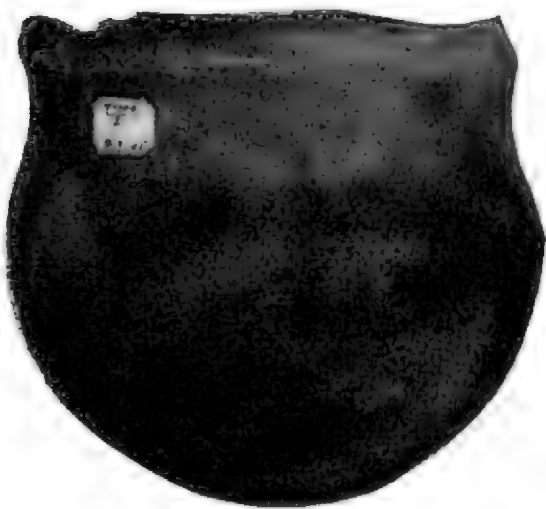
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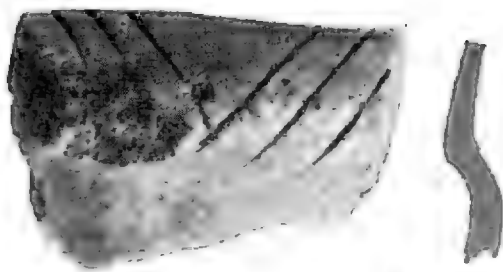
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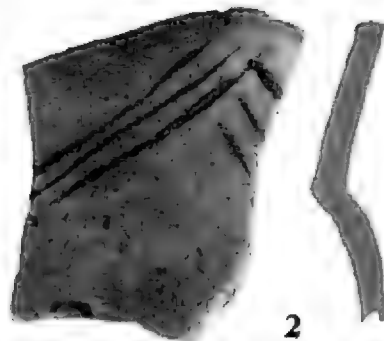
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PLATE VIII

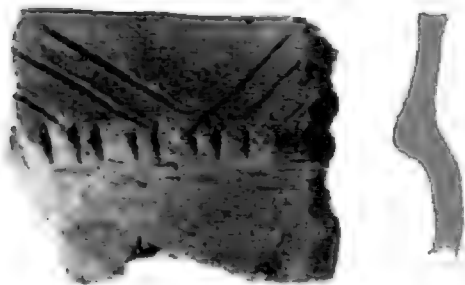
- Figure 1. Ripley Triangular Type. From the Ripley site. In the archæological collection of the Peabody Museum of Harvard.
- Figure 2. Ripley Triangular Type. From the Ripley site. In the archæological collection of the Peabody Museum of Harvard.
- Figure 3. Ripley Triangular Type. From the Ripley site. In the archæological collection of the Peabody Museum of Harvard.
- Figure 4. Ripley Triangular Type. From the Ripley site. In the archæological collection of the Peabody Museum of Harvard.
- Figure 5. Erie sherds of Lawson Opposed Type. From the Ripley site. In the archæological collection of the Peabody Museum of Harvard.
- Figure 6. Erie sherds of Lawson Opposed Type. From the Ripley site. In the archæological collection of the Peabody Museum of Harvard.
- Figure 7. Erie type of decorations below castellations. From the Ripley site. In the archæological collection of the Peabody Museum of Harvard.
- Figure 8. Erie type of decorations below castellations. From the Ripley site. In the archæological collection of the Peabody Museum of Harvard.
- Figure 9. Erie sherds of Lawson Incised Type. From the Ripley site. In the archæological collection of the Peabody Museum of Harvard.
- Figure 10. Erie sherds of Lawson Incised Type. From the Ripley site. In the archæological collection of the Peabody Museum of Harvard.



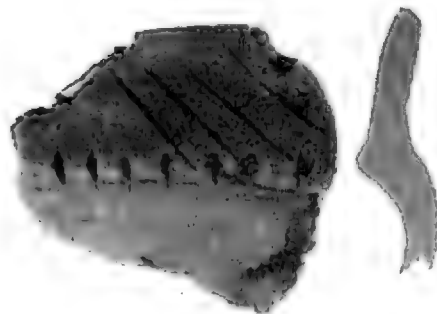
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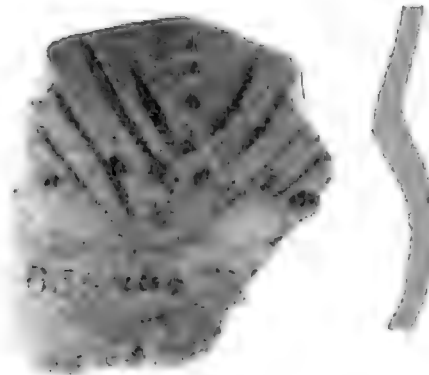
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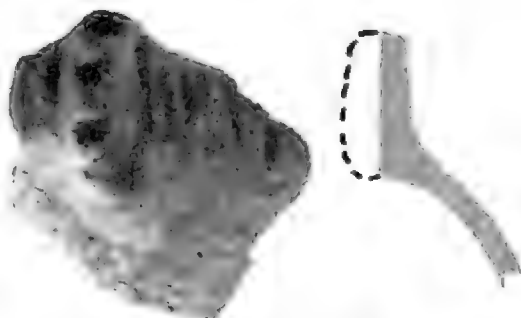
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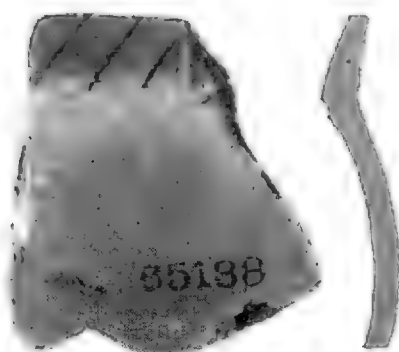
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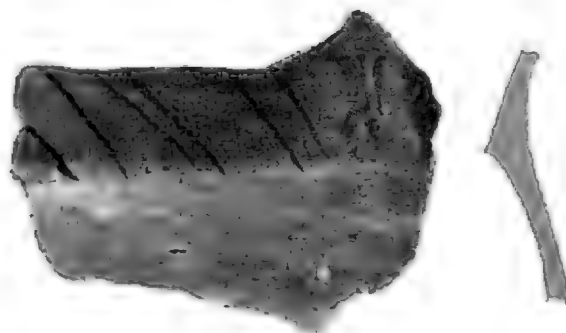
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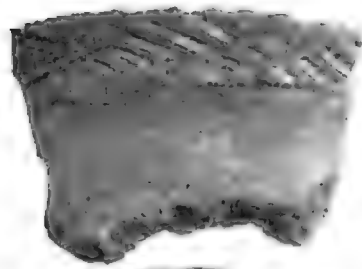
PLATE IX

- Figure 1. Variant of the Warminster Crossed Type. From the Sidey-Mackay site. Cat. No. of the National Museum of Canada, VIII-F-20593.
- Figure 2. Typical sherd of Warminster Crossed Type. From the Jerrett site. Cat. No. of the National Museum of Canada, VIII-F-22909*m*.
- Figure 3. Typical sherd of Warminster Crossed Type. From the Sidey-Mackay site. Cat. No. of the National Museum of Canada, VIII-F-20447*c*.
- Figure 4. Typical sherd of Warminster Crossed Type showing squared castellation and a loop handle. From the J. Steele collection of Hamilton, Ontario. From the Warminster site.
- Figure 5. Sherd of Sidey Notched Type. From the Sidey-Mackay site. Cat. No. of the National Museum of Canada, VIII-F-203290.
- Figure 6. Sherd of Sidey Notched Type. From the Sidey-Mackay site. Cat. No. of the National Museum of Canada, VIII-F-20325*a*.
- Figure 7. Sherd of Sidey Notched Type. From the Sidey-Mackay site. Cat. No. of the National Museum of Canada, VIII-F-20399*a*.
- Figure 8. Sherd of Sidey Notched Type. From the Sidey-Mackay site. Cat. No. of the National Museum of Canada, VIII-F-20043.

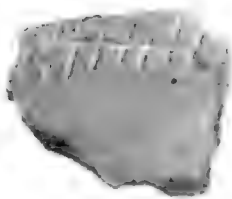
PLATE IX



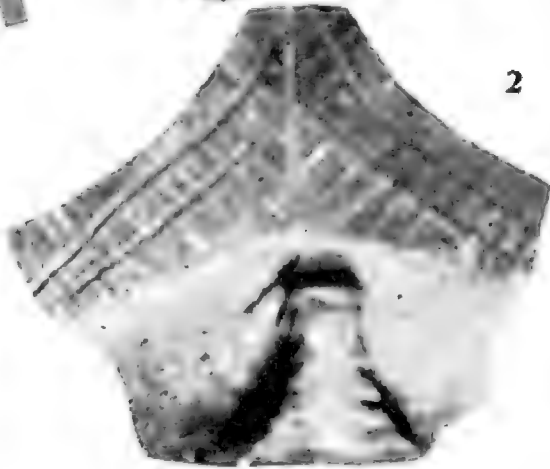
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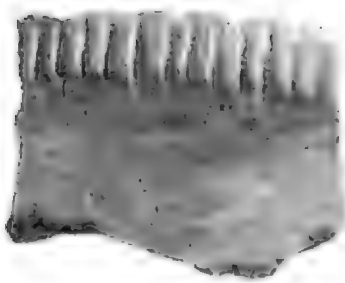
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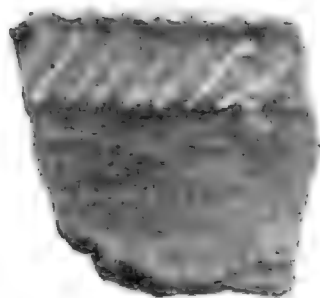
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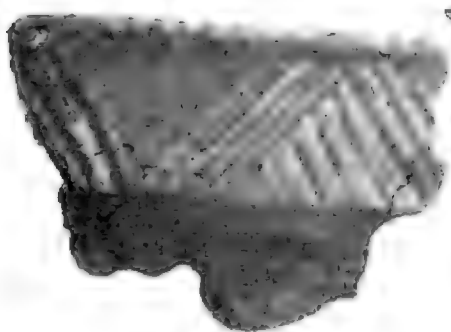
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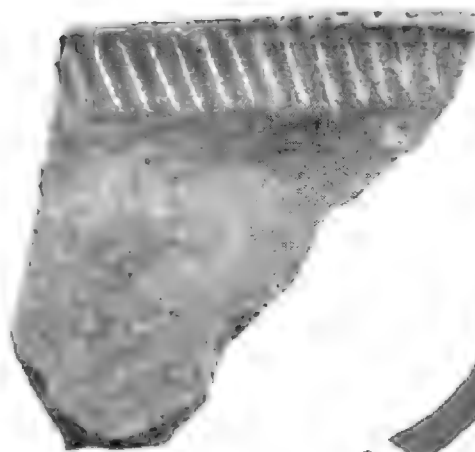
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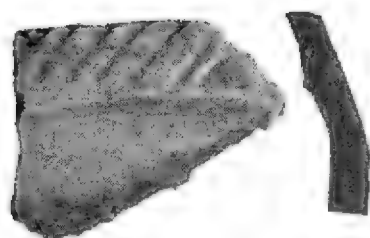
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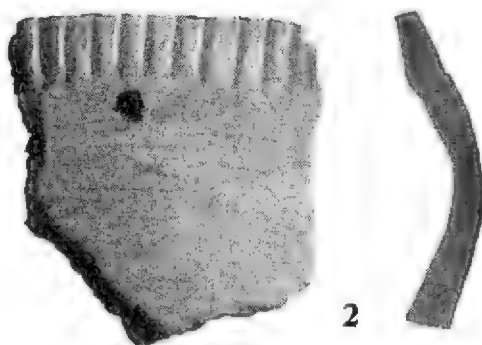
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PLATE X

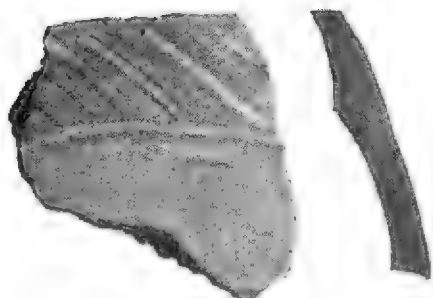
- Figure 1. Typical sherd of Huron Incised Type. From the Seed site. Cat. No. of the National Museum of Canada, VIII-F-23882*a*.
- Figure 2. Huron Incised Type. From the Sidey-Mackay site. Cat. No. of the National Museum of Canada, VIII-F-20331*c*.
- Figure 3. Huron Incised Type. From the Seed site. Cat. No. of the National Museum of Canada, VIII-F-23882*b*.
- Figure 4. Variant of Huron Incised Type. From the Seed site. Cat. No. of the National Museum of Canada, VIII-F-23197*n*.
- Figure 5. Variant of Huron Incised Type. From the Seed site. Cat. No. of the National Museum of Canada, VIII-F-21117*g*.
- Figure 6. Variant of Huron Incised Type. From the Seed site. Cat. No. of the National Museum of Canada, VIII-F-23005.
- Figure 7. Seed Corded Type. From the Seed site. Cat. No. of the National Museum of Canada, VIII-F-23398.
- Figure 8. Seed Corded Type. From the Seed site. Cat. No. of the National Museum of Canada, VIII-F-23377.
- Figure 9. Seed Corded Type. From the Seed site. Cat. No. of the National Museum of Canada, VIII-F-23112*p*.



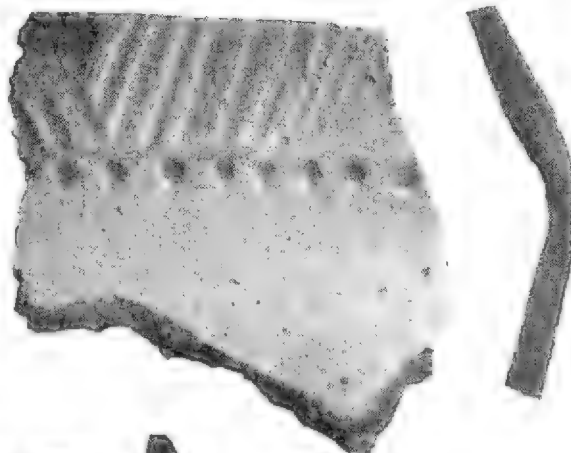
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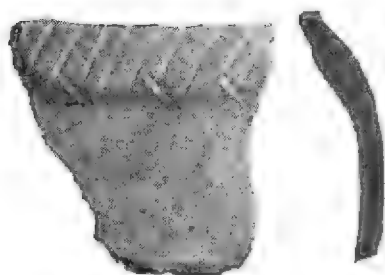
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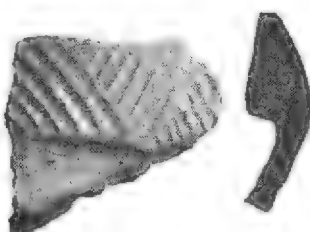
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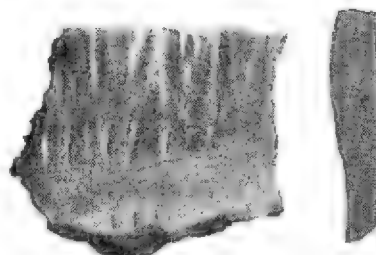
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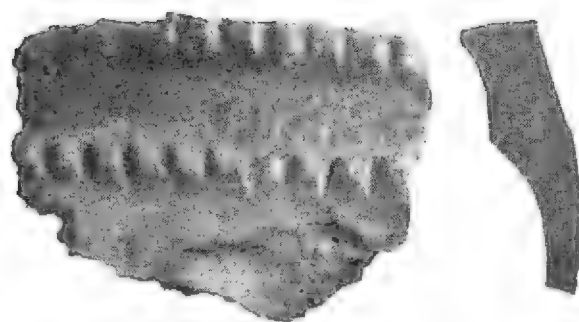
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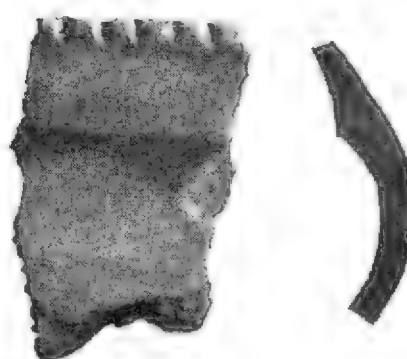
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PLATE XI

- Figure 1. Seed Incised Type. From the Sidey-Mackay site. Cat. No. of the National Museum of Canada, VIII-F-20318.
- Figure 2. Rare variant of Seed Incised Type. From the Seed site. Cat. No. of the National Museum of Canada, VIII-F-23941.
- Figure 3. Variant of Seed Incised Type. From the Seed site. Cat. No. of the National Museum of Canada, VIII-F-23947f.
- Figure 4. Typical sherd of Seed Incised type. From the Seed site. Cat. No. of the National Museum of Canada, VIII-F-23116a.
- Figure 5. Typical sherd of Seed Incised Type. From the Sidey-Mackay site. Cat. No. of the National Museum of Canada, VIII-F-20318.
- Figure 6. Warminster Horizontal Type with a bifurcated castellation. From the Sidey-Mackay site. Cat. No. of the National Museum of Canada, VIII-F-20434.
- Figure 7. Warminster Horizontal. From the Sidey-Mackay site. Cat. No. of the National Museum of Canada, VIII-F-20446e.
- Figure 8. Sidey Crossed with a pointed castellation. From the Sidey-Mackay site. Cat. No. of the National Museum of Canada, VIII-F-21073f.
- Figure 9. Sidey Crossed. From the Sidey-Mackay site. Cat. No. of the National Museum of Canada, VIII-F-21094r.
- Figure 10. Sidey Crossed. From the Sidey-Mackay site. Cat. No. of the National Museum of Canada, VIII-F-21102y.

PLATE XI

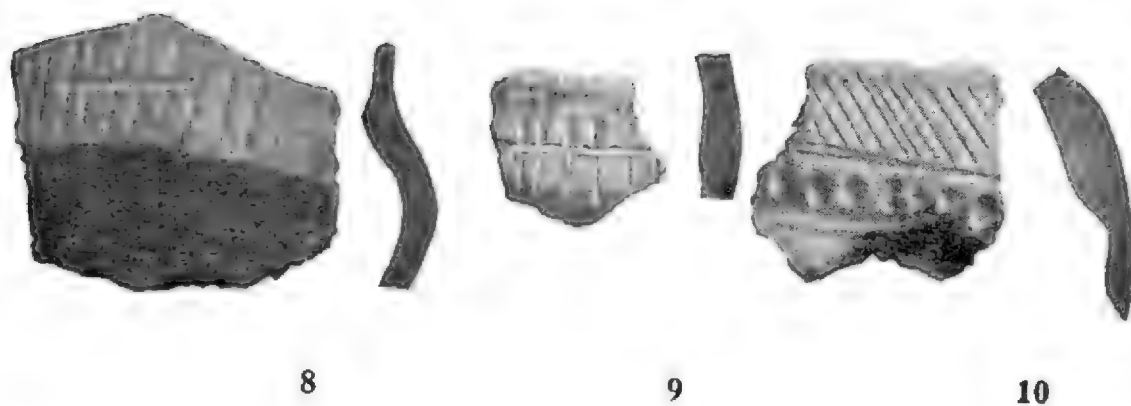
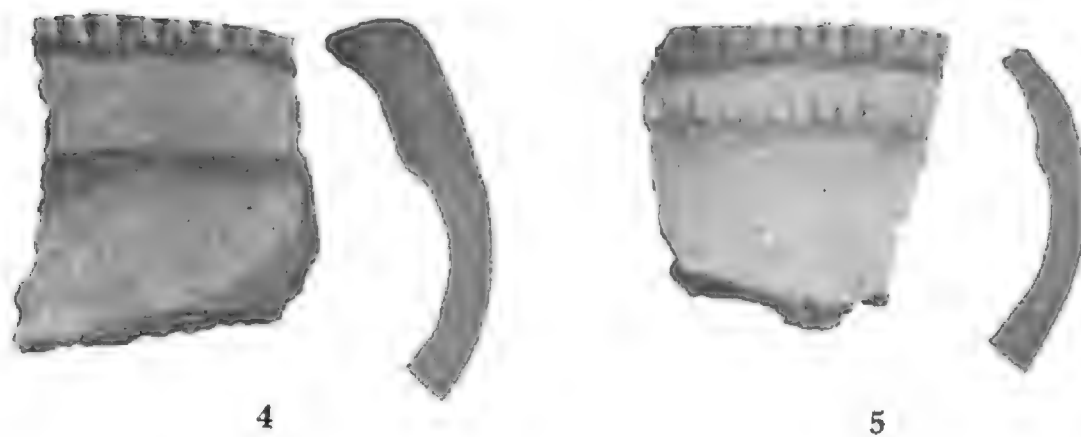
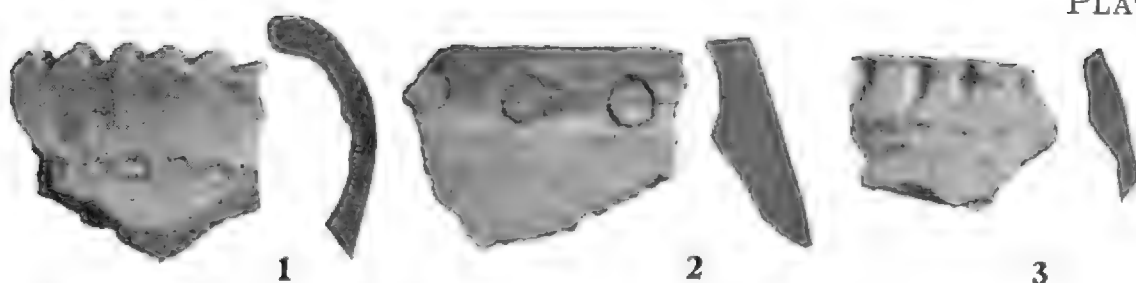
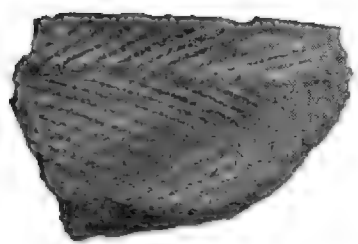
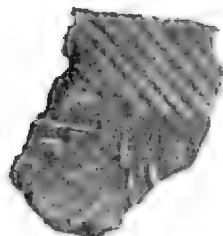


PLATE XII

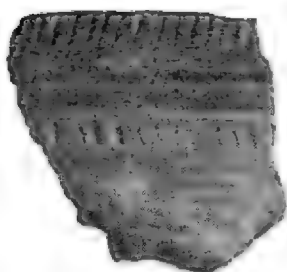
- Figure 1. Black Necked Type. From the Seed site. Cat. No. of the National Museum of Canada, VIII-F-23021.
- Figure 2. Black Necked Type. From the Seed site. Cat. No. of the National Museum of Canada, VIII-F-23832.
- Figure 3. Black Necked with typical Huron shape but with a decoration similar to Middleport Oblique. From the Seed site. Cat. No. of the National Museum of Canada, VIII-F-23787.
- Figure 4. Black Necked Type. From the Seed site. Cat. No. of the National Museum of Canada, VIII-F-23787.
- Figure 5. Black Necked Type. From the Seed site. Cat. No. of the National Museum of Canada, VIII-F-23442.
- Figure 6. Black Necked Type. From the Seed site. Cat. No. of the National Museum of Canada, VIII-F-23729.
- Figure 7. Black Necked Type. From the Seed site. Cat. No. of the National Museum of Canada, VIII-F-23726.
- Figure 8. Black Necked Type. From the Seed site. Cat. No. of the National Museum of Canada, VIII-F-23694.



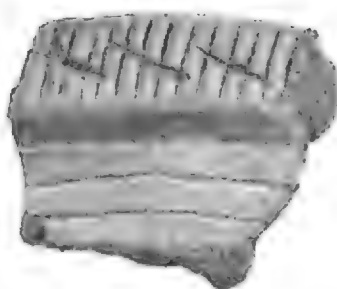
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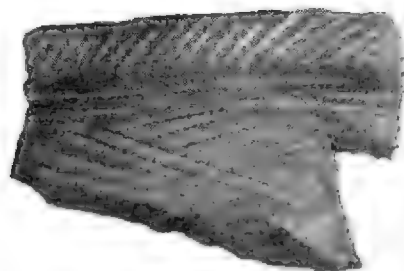
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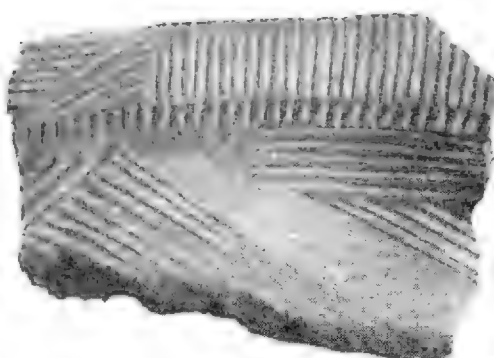
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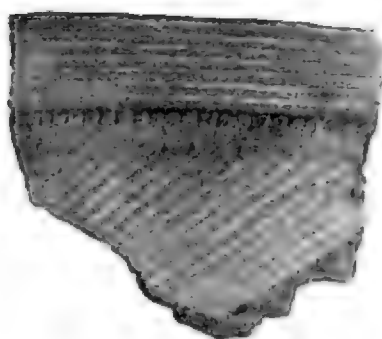
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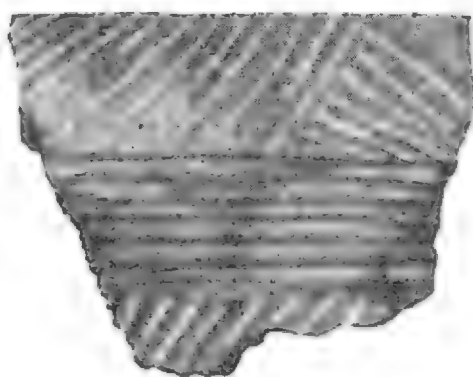
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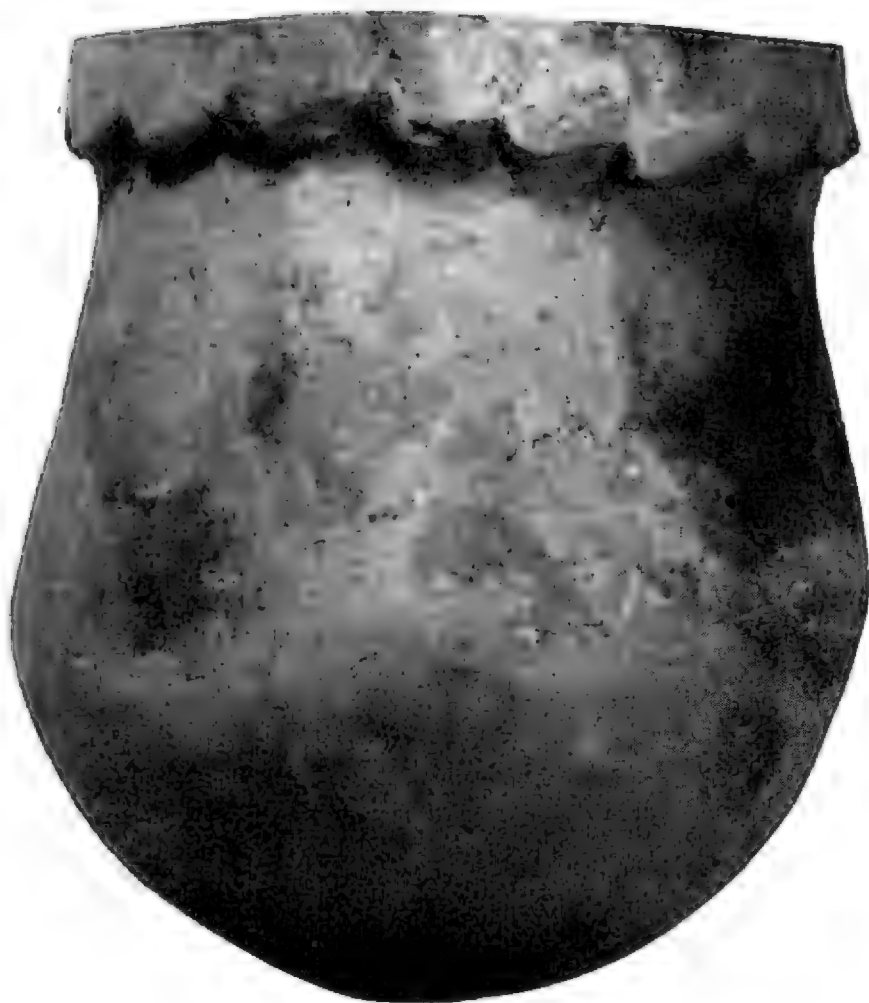
PLATE XIII

(slightly less than half size)

- Figure 1. Common decorated variant of Seneca Barbed Collar type. From Dutch Hollow site. In archæological collection of R. Hill of Rochester, N.Y.
- Figure 2. Undecorated variant of Seneca Barbed Collar type. From Genoa Fort site. In Thurston Collection at Sherrill, N.Y.



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PLATE XIV

- Figure 1. Seneca Notched type. From Factory Hollow site. In the H. Schoff collection of West Bloomfield, N.Y. ($\frac{1}{2}$ natural size)
- Figure 2. Seneca Notched type. From Dansville Flats site. In collection of J. Quinlan of Dansville, N.Y. Note check stamped body finish and size. ($\frac{1}{4}$ natural size)



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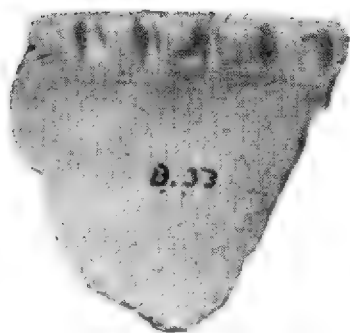


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PLATE XV

($\frac{1}{2}$ natural size)

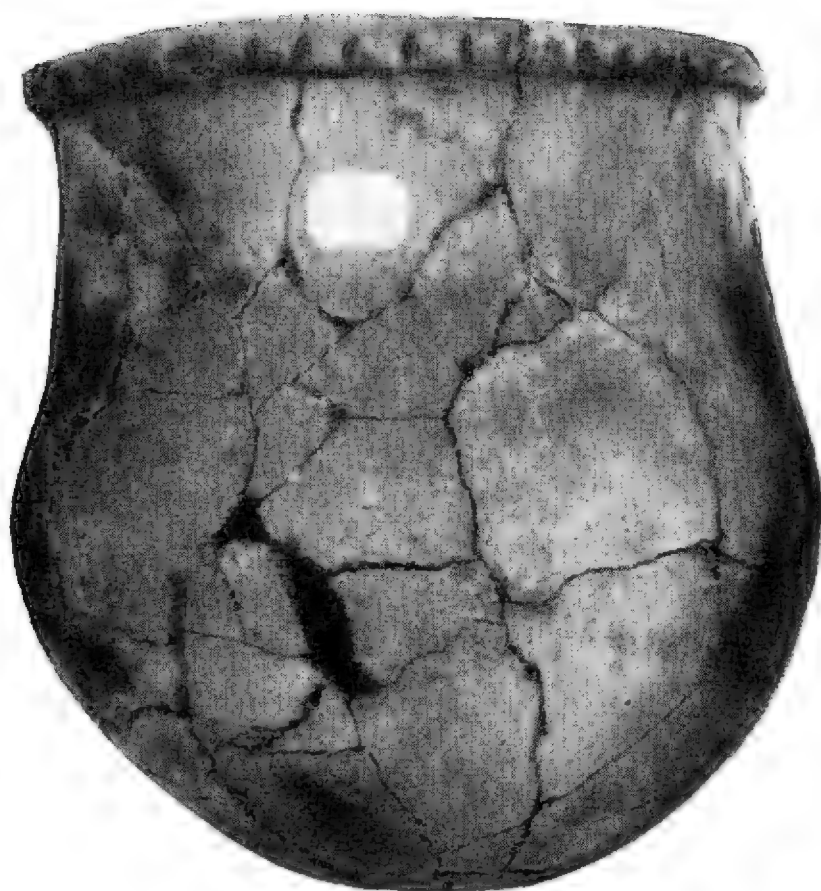
- Figure 1. Typical rim sherd of Dutch Hollow Notched type. From Dansville Flats site. In the collection of J. Quinlan of Dansville, N.Y.
- Figure 2. Uncommon variant of Dutch Hollow Notched type. From Long Point site. In the collection of G.K. Wright of Rochester, N.Y.
- Figure 3. Pot of Dutch Hollow Notched type. From Dutch Hollow site. In the collection of R. Hill of Rochester, N.Y.



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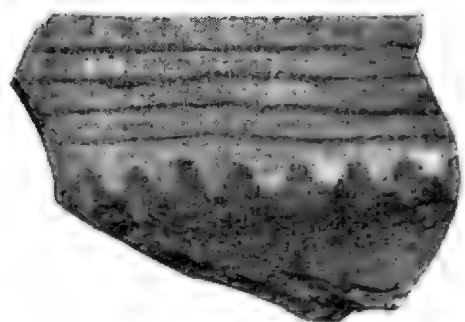
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PLATE XVI

- Figure 1. Long Point Horizontal. From Cornish site. In the collection of C. Carpenter at Canandaigua, N.Y. ($\frac{1}{2}$ natural size)
- Figure 2. Variant of Long Point Horizontal. From Dansville Flats site. In the collection of J. Quinlan of Dansville, N.Y. ($\frac{1}{2}$ natural size)
- Figure 3. Portion of typical vessel of Long Point Horizontal type. From Dansville Flats site. In the collection of J. Quinlan of Dansville, N.Y. ($\frac{1}{3}$ natural size)
- Figure 4. Typical undecorated sherd of Long Point Nocked type. From the Long Point site on Conesus Lake. In the collection of G. K. Wright of Rochester, N.Y. ($\frac{1}{2}$ natural size)
- Figure 5. Variant of Long Point Nocked type having horizontal lines on the collar. From the Long Point site. In the collection of G. K. Wright of Rochester, N.Y. ($\frac{1}{2}$ natural size)
- Figure 6. Early vessel of Long Point Nocked type having a cordmarked body. From Dansville Flats site. In the collection of J. Quinlan of Dansville, N.Y.



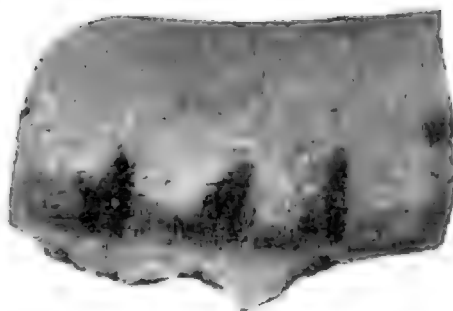
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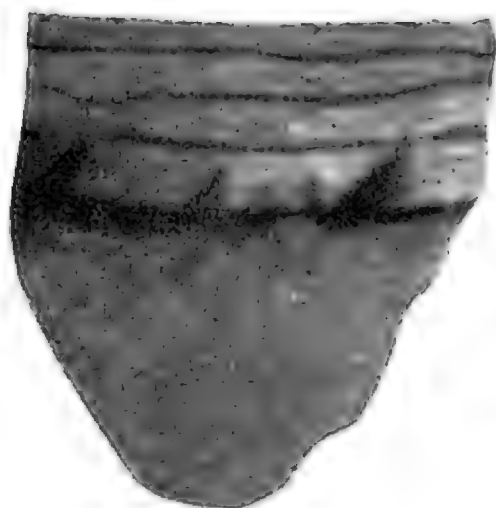
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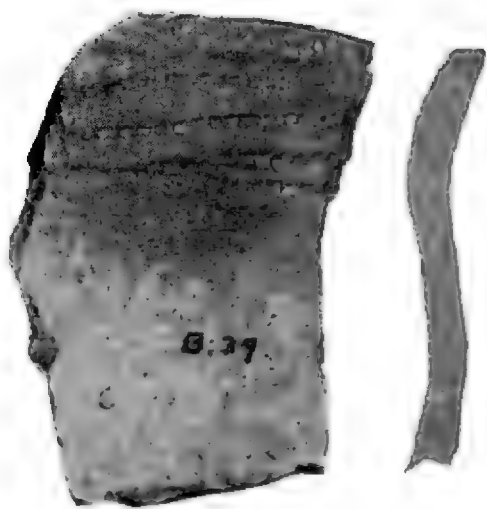


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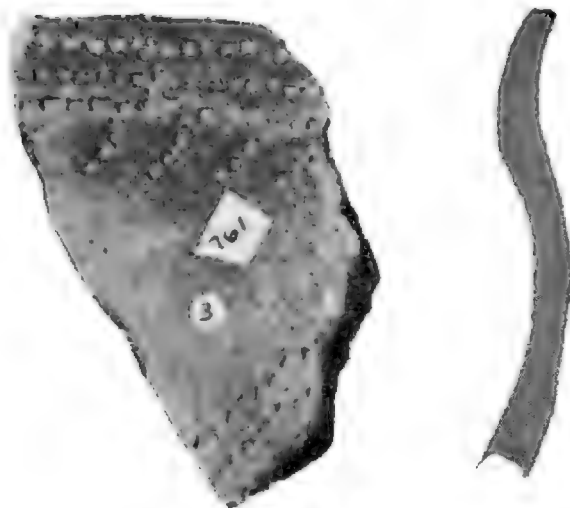
PLATE XVII

 $(\frac{1}{2}$ natural size)

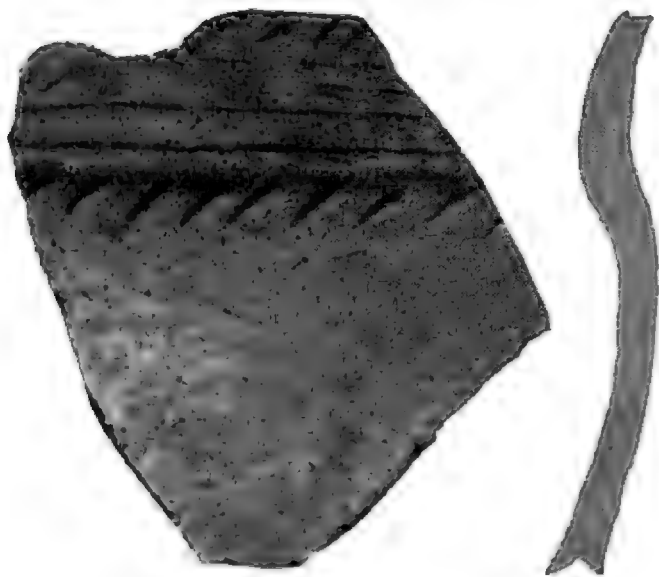
- Figure 1. Sherd of Sparta Dentate. From Dansville Flats site. In J. Quinlan collection at Dansville, N.Y.
- Figure 2. Sherd of Sparta Dentate. From Dansville Flats site. In J. Quinlan collection at Dansville, N.Y.
- Figure 3. Seneca sherd of Iroquois Linear type. From Dansville Flats site. In J. Quinlan collection at Dansville, N.Y.
- Figure 4. Seneca sherd of Iroquois Linear type. From Dansville Flats site. In J. Quinlan collection at Dansville, N.Y.
- Figure 5. Sherd of Sackett variant of Owasco Corded Collar type. From Long Point site. In collection of G. K. Wright of Rochester, N.Y.
- Figure 6. Fragment of a vessel of Dansville Corded type. From Dansville Flats site. In collection of J. Quinlan of Dansville, N.Y.—Contrast the rim cross-section of this type with that of the sherd of Owasco Corded Collar.



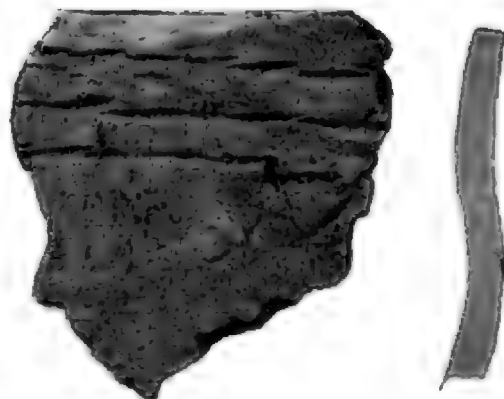
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PLATE XVIII

- Figure 1. Reconstructed vessel of Myer's Barbed Collar type. From Genoa Fort site. In the collection of J. Cramer of Auburn, N.Y.
- Figure 2. Reconstructed vessel of Myer's Barbed Collar type. From Genoa Fort site. In the collection of J. Cramer of Auburn, N.Y.



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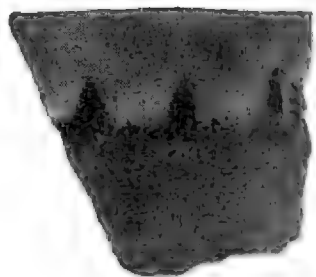
PLATE XIX

- Figure 1. Sherd of Ithaca Linear type with linear punch diagonal. From Genoa Fort site. In Ward Collection of Cayuga, N.Y. ($\frac{1}{2}$ natural size)
- Figure 2. Sherd of Ithaca Linear type with horizontal linear punches and notches at bases of the collar. From Genoa Fort site. In Ward Collection at Cayuga, N.Y. ($\frac{1}{2}$ natural size)
- Figure 3. Vessel of Ithaca Linear type with horizontal linear punches, and no basal notches on collar. From Genoa Fort site. In the collection of J. Quinlan of Dansville, N.Y. ($\frac{1}{3}$ natural size)



PLATE XX

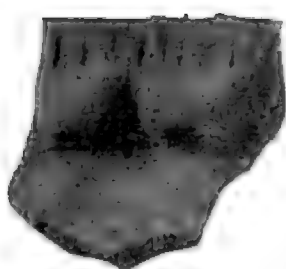
- Figure 1. A variant of Genoa Frilled type. From Genoa Fort site. In the Ward Collection at Cayuga, N.Y. ($\frac{1}{2}$ natural size)
- Figure 2. A variant of Genoa Frilled type. From Genoa Fort site. In the Ward Collection at Cayuga, N.Y. ($\frac{1}{2}$ natural size)
- Figure 3. A variant of Genoa Frilled type. From Genoa Fort site. In the Ward Collection at Cayuga, N.Y. ($\frac{1}{2}$ natural size)
- Figure 4. A variant of Genoa Frilled type. From Genoa Fort site. In the Ward Collection at Cayuga, N.Y. ($\frac{1}{2}$ natural size)
- Figure 5. A vessel of Genoa Frilled type having a slightly higher collar than the majority of sherds of this type. From Genoa Fort. In the Cramer Collection at Auburn, N.Y.



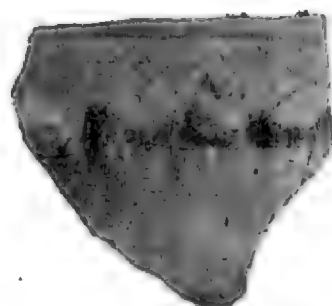
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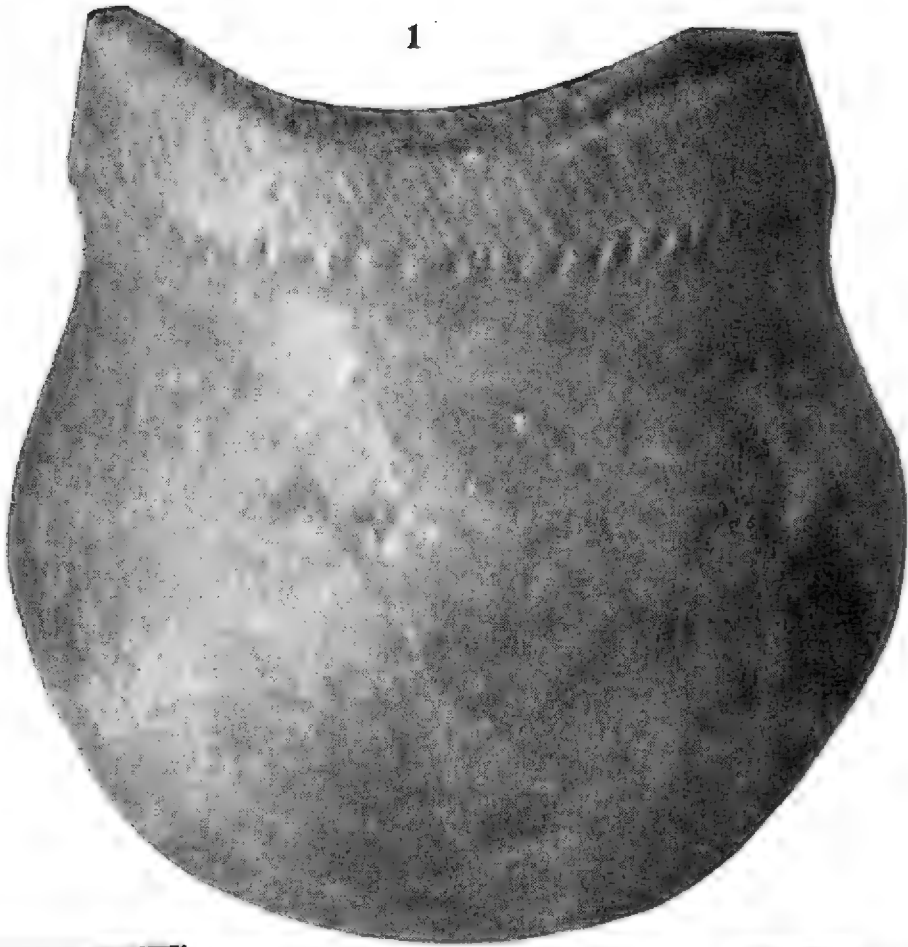


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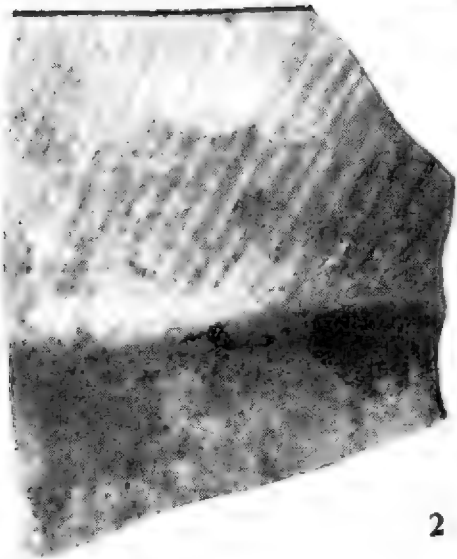
PLATE XXI

- Figure 1. Vessel of Richmond Incised type. From Genoa Fort. In J. Quinlan collection at Dansville, N.Y. ($\frac{1}{3}$ natural size)
- Figure 2. A variant of Richmond Incised type. From Genoa Fort. In J. Ward collection at Cayuga, N.Y. ($\frac{1}{2}$ natural size)
- Figure 3. A variant of Richmond Incised type. From Genoa Fort. In J. Ward collection at Cayuga, N.Y. ($\frac{1}{2}$ natural size)
- Figure 4. A variant of Richmond Incised type. From Genoa Fort. In J. Ward collection at Cayuga, N.Y. ($\frac{1}{2}$ natural size)
- Figure 5. A variant of Richmond Incised type. From Genoa Fort. In J. Ward collection at Cayuga, N.Y. ($\frac{1}{2}$ natural size)

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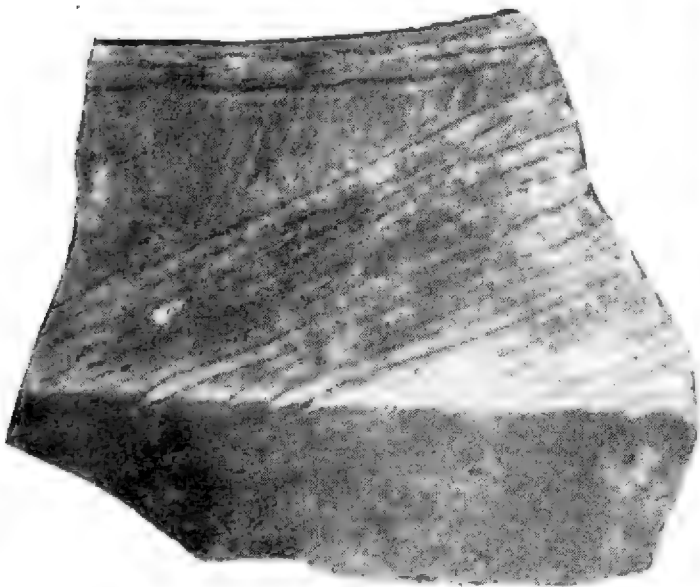
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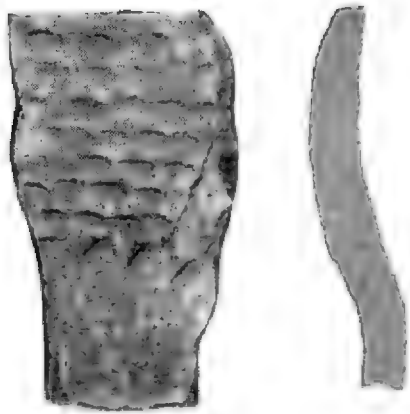
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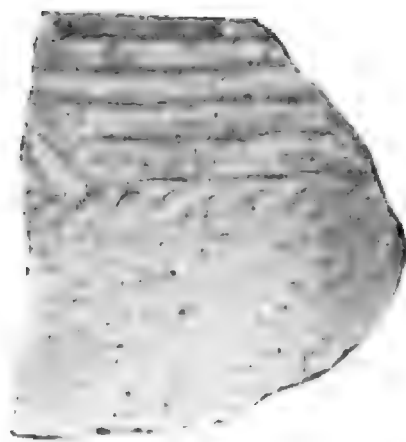
PLATE XXII

 $(\frac{1}{2}$ natural size)

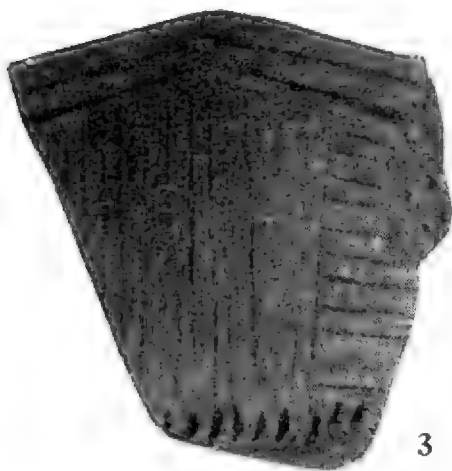
- Figure 1. Typical sherds of Bristol Linear type. From the Woodley site. In the Farwell collection at Geneva, N.Y. Note the high incipient collar.
- Figure 2. Variant of Bristol Linear type. From Woodley site. In the Farwell collection at Geneva, N.Y.
- Figure 3. Variant at Cayuga Horizontal. From Genoa Fort. In the Ward collection at Cayuga, N.Y.
- Figure 4. Variant of Cayuga Horizontal approaching Ontario Horizontal. From Woodley site. In Farwell collection at Geneva, N.Y.
- Figure 5. Typical sherd of Cayuga Horizontal. From Woodley site. In Farwell collection at Geneva, N.Y.
- Figure 6. Typical sherd of Hummel Corded. From Dansville Flats site. In Gessner collection at Dansville, N.Y.



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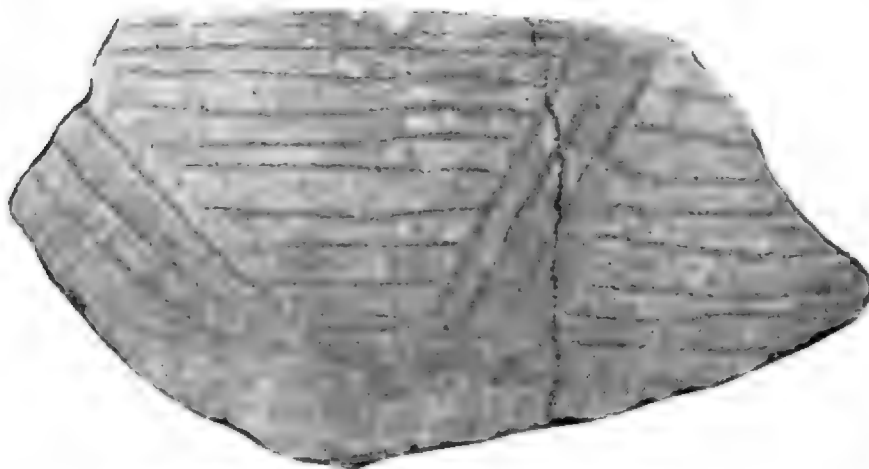
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PLATE XXIII

(½ natural size)

- Figure 1. Rare variant of Thurston Horizontal. From the Roebuck site. Cat. number of the National Museum of Canada VIII-F-10546.
- Figure 2. Rare variant of Thurston Horizontal. From the Roebuck site. Cat. number of the National Museum of Canada VIII-F-11300.
- Figure 3. Typical sherd of Thurston Horizontal. From the Roebuck site. Cat. number of the National Museum of Canada, VIII-F-10240.
- Figure 4. Typical sherd of Thurston Horizontal. From the Roebuck site. Cat. number of the National Museum of Canada, VIII-F-20512.
- Figure 5. Sherd of Syracuse Incised type with rare type incipient collar. From the Ivey site.
- Figure 6. Typical sherd of Syracuse Incised. From the Roebuck site. Cat. number of the National Museum of Canada, VIII-F-13882.
- Figure 7. Rare variant of Syracuse Incised. From the Roebuck site. Cat. number of the National Museum of Canada, VIII-F-12723c.
- Figure 8. Typical sherd of Syracuse Incised. From the Roebuck site. Cat. number of the National Museum of Canada, VIII-F-12099.

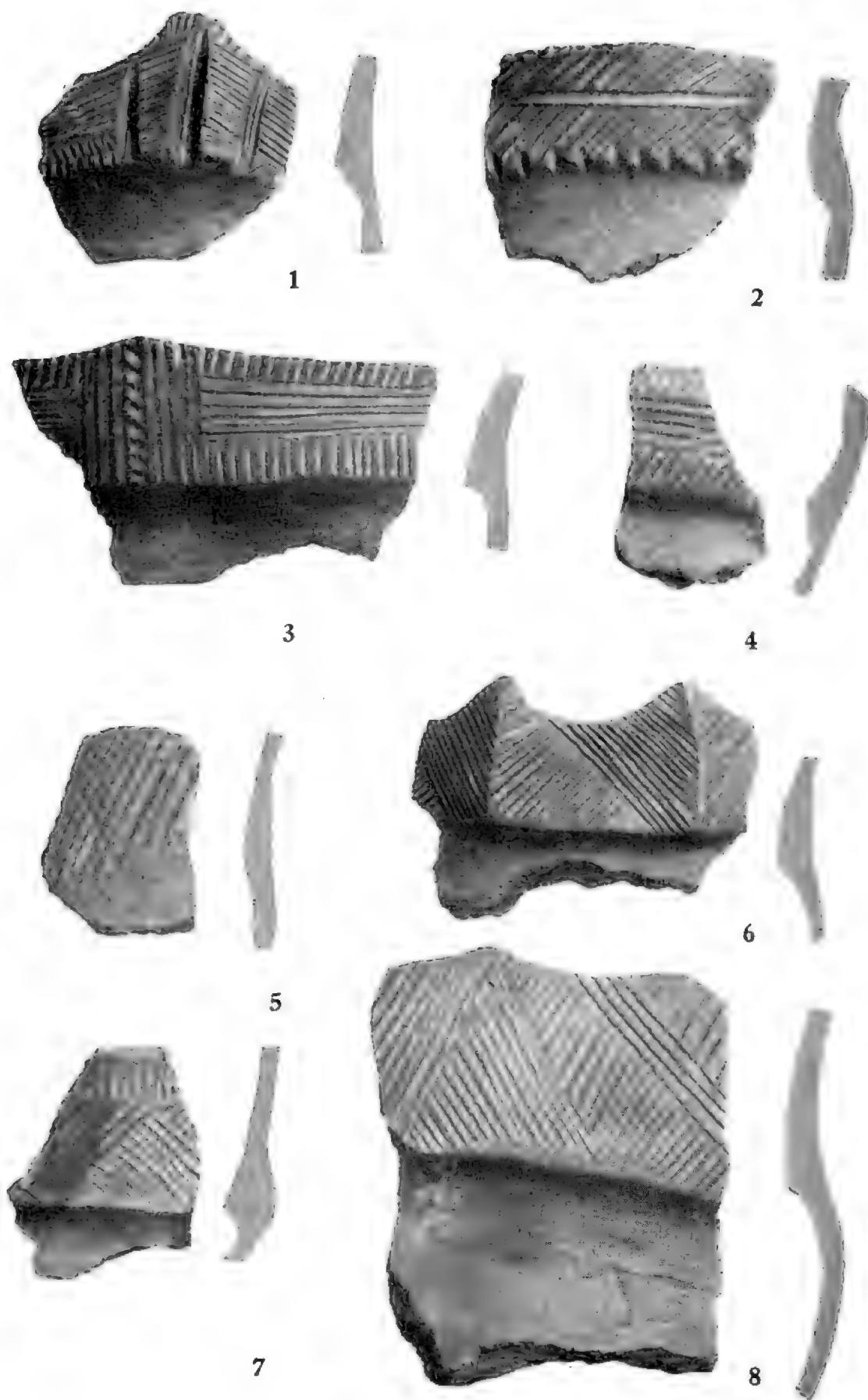
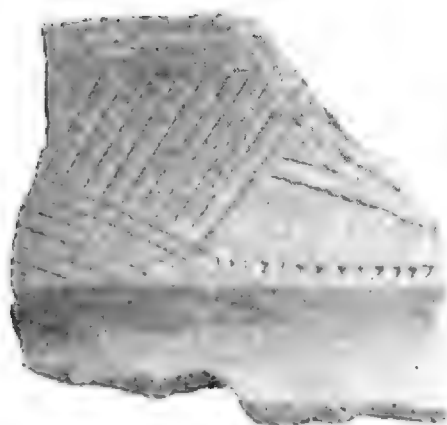


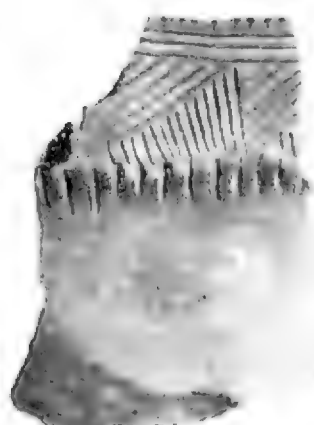
PLATE XXIV

(½ natural size)

- Figure 1. Variant of Onondaga Triangular type with undecorated right triangular area. From the Roebuck site. Cat. number of the National Museum of Canada, VIII-F-11328.
- Figure 2. Variant of Onondaga Triangular with gashes at the base of the collar and opposed right triangles on the collar. From the Durfee site. In Peabody Museum of Harvard collections.
- Figure 3. Variant of Onondaga Triangular with notches at the base of collar and an overhanging rim. From the Roebuck site. Cat. number of the National Museum of Canada, VIII-F-10602.
- Figure 4. Variant of Onondaga Triangular without notches at the base of the collar. From the Roebuck site. Cat. number of the National Museum of Canada, VIII-F-11026x.
- Figure 5. Variant of Onondaga Triangular with elliptical notches at the base of the collar. From the Roebuck site. Cat. number of the National Museum of Canada, VIII-F-11007u.
- Figure 6. Variant of Onondaga Triangular with hollow reed punctates separating some of the triangles. From the Roebuck site. Cat. number of the National Museum of Canada, VIII-F-10590a.



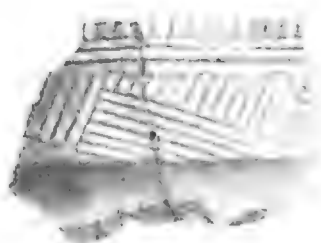
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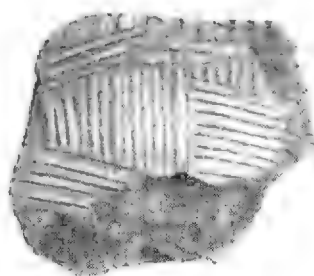
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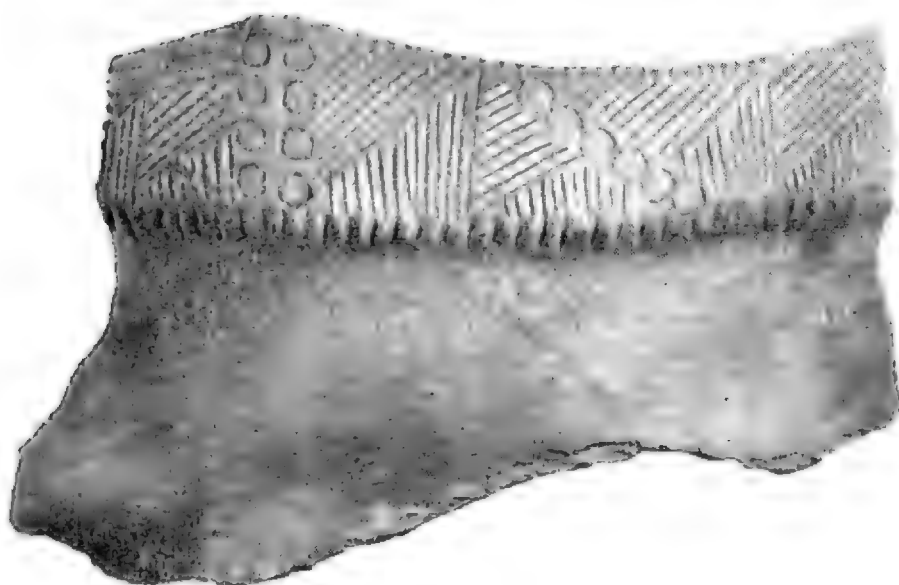
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PLATE XXV

(½ natural size)

- Figure 1. Rare variant of Roebuck Low Collar type with undecorated triangular areas. From the Roebuck site. Cat. number of the National Museum of Canada, VIII-F-11258.
- Figure 2. Variant of Roebuck Low Collar type having a handle. From Roebuck site. Cat. number of the National Museum of Canada, VIII-F-13214a.
- Figure 3. Variant of Roebuck Low Collar type. From the Roebuck site. Cat. number of the National Museum of Canada, VIII-F-9822.
- Figure 4. Lawson Opposed sherd. From Roebuck site. Cat. number of the National Museum of Canada, VIII-F-1032u.
- Figure 5. Typical sherd of Roebuck Low Collar type. From the Roebuck site. Cat. number of the National Museum of Canada, VIII-F-9668.
- Figure 6. Rare variant of Durfee Underlined type. From the Roebuck site. Cat. number of the National Museum of Canada, VIII-F-1016y.
- Figure 7. Typical sherd of Durfee Underlined. From the Ivey site.
- Figure 8. Typical sherd of Durfee Underlined. From the Roebuck site. Cat. number of the National Museum of Canada, VIII-F-12592a.
- Figure 9. Typical sherd of Durfee Underlined. From the Roebuck site. Cat. number of the National Museum of Canada, VIII-F-10563.
- Figure 10. Typical sherd of Durfee Underlined. From the Roebuck site. Cat. number of the National Museum of Canada, VIII-F-10731c.

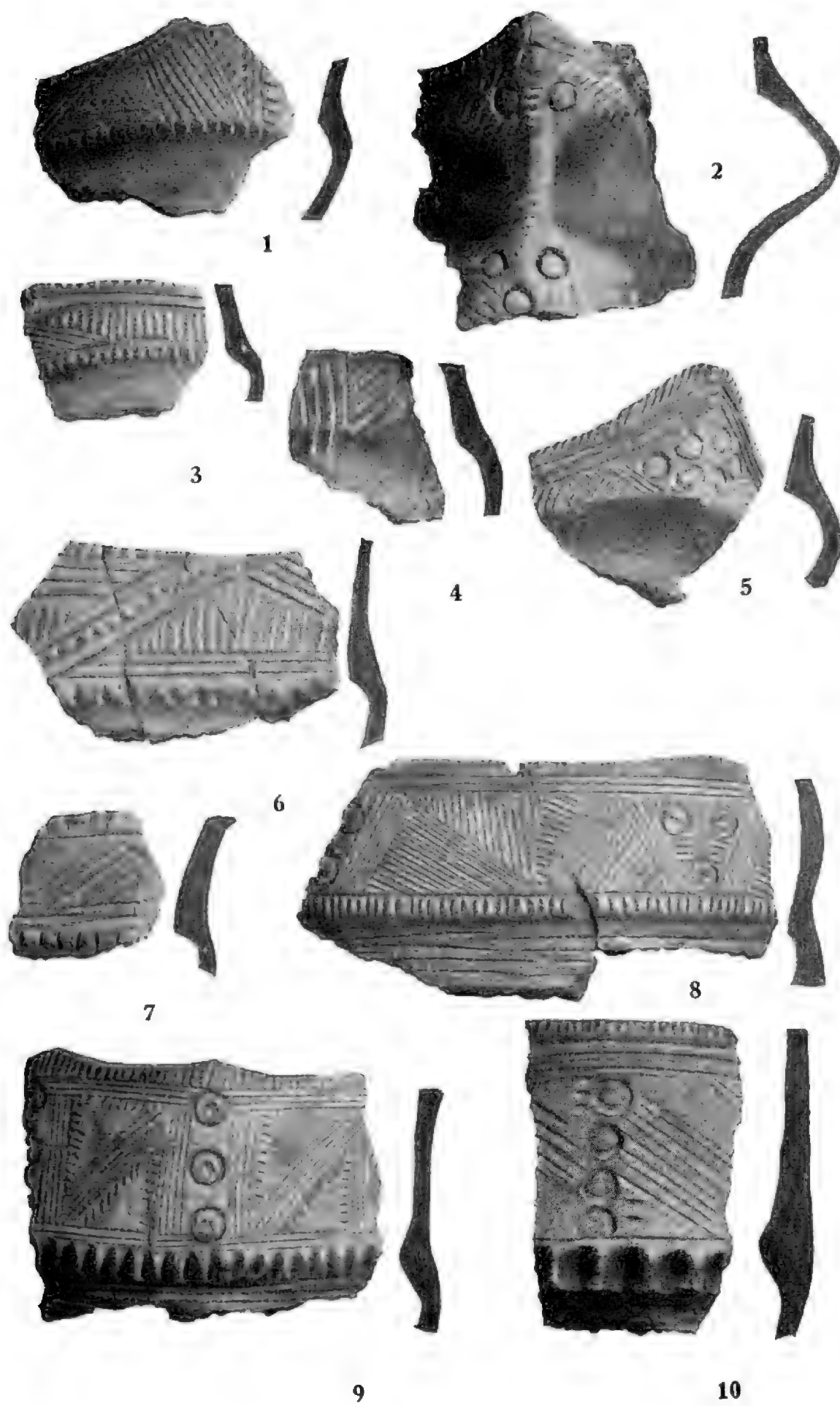


PLATE XXVI

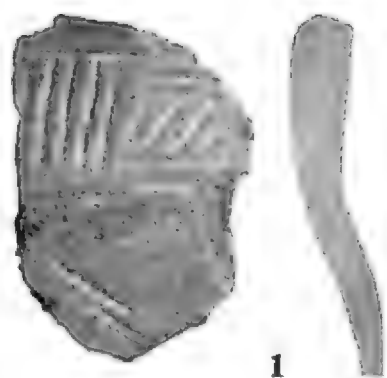
(Approx. $\frac{1}{2}$ natural size)

Typical vessel of Swarthout Dentate type. From the Waupoose site near Picton, Ontario site. In the collection of Captain J. Pendergast, stationed at Picton, Ont.

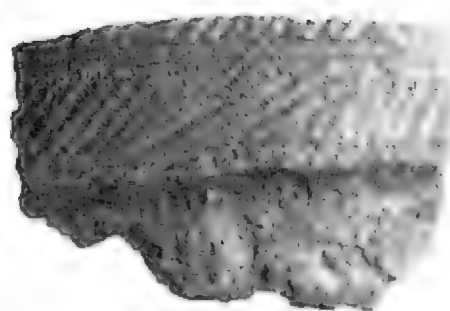


PLATE XXVII

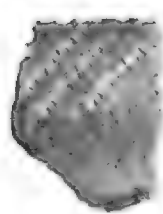
- Figure 1. Typical sherd of Lanorie Corded. From the Ivey site.
- Figure 2. Typical sherd of Lanorie Corded. From the Lanorie site in Quebec. Cat. number of the National Museum of Canada, VIII-E-1027.
- Figure 3. Rare variant of Lanorie Corded. From the Lanorie site in Quebec. Cat. number of the National Museum of Canada, VIII-E-998a.
- Figure 4. Variant of Lanorie Corded. From the Ivey site.
- Figure 5. Low collared variant of Swarthout Dentate. From the Lanorie site, Quebec. Cat. number of the National Museum of Canada, VIII-E-1027y.
- Figure 6. Low collared variant of Swarthout Dentate. From the Lanorie site, Quebec. Cat. number of the National Museum of Canada, VIII-E-1017j.
- Figure 7. Notched lip variant of Swarthout Dentate. From the Lanorie site, Quebec. Cat. number of the National Museum of Canada, VIII-E-379.
- Figure 8. Typical sherd of Swarthout Dentate. From the Roebuck site. Cat. number of the National Museum of Canada, VIII-E-9686.



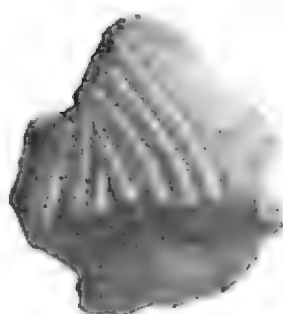
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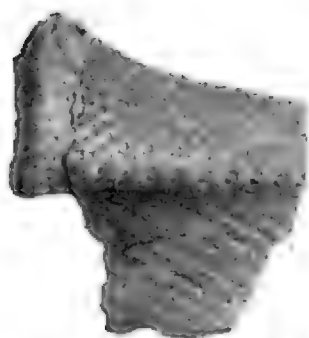
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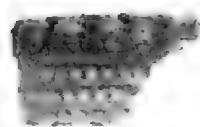
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PLATE XXVIII

(½ natural size)

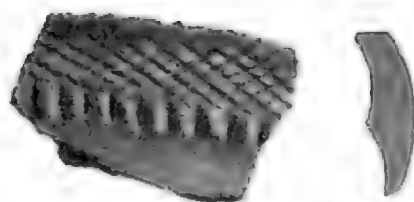
- Figure 1. Typical sherd of Lanorie Crossed type. From the Lanorie site, Quebec. Cat. number of the National Museum of Canada, VIII-E-1002a.
- Figure 2. Variant of Lanorie Crossed with cross-hatched lip and a beaded neck. From Lanorie site, Quebec. Cat. number of the National Museum of Canada, VIII-E-1008a.
- Figure 3. Variant of Lanorie Crossed. From Lanorie site, Quebec. Cat. number of the National Museum of Canada, VIII-E-1032s.
- Figure 4. Variant of Lanorie Crossed. From Lanorie site, Quebec. Cat. number of the National Museum of Canada, VIII-E-1032d.
- Figure 5. Sherd of Lanorie Mixed type with dentate stamp decoration technique except for horizontal lines at top of the collar. From Lanorie site. Cat. number of the National Museum of Canada, VIII-E-1032d.
- Figure 6. Sherd of Lanorie Mixed type with dentate stamp decoration on the collar and cord-wrapped paddle edge decoration at top and bottom of the collar. From Lanorie site.
- Figure 7. Sherd of Lanorie Mixed type with incised line on the collar and cord-wrapped paddle edge impression at edge of the lip. From Lanorie site. Cat. number of the National Museum of Canada, VIII-E-1024d.
- Figure 8. Rare variant of Lanorie Mixed with linear punch and incised decoration on the collar. From the Lanorie site. Cat. number of the National Museum of Canada, VIII-E-1052h.



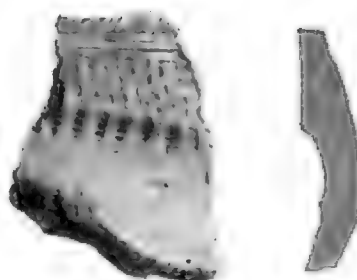
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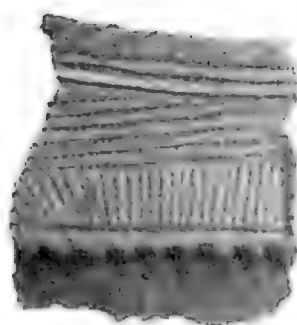
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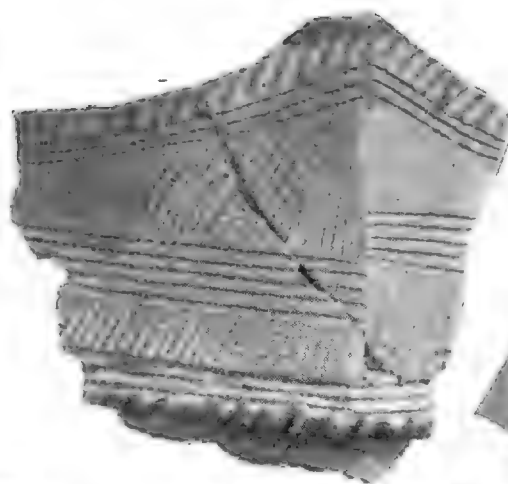
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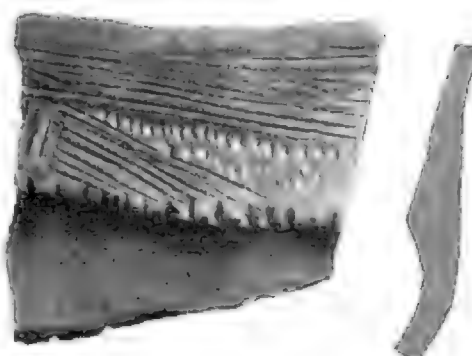
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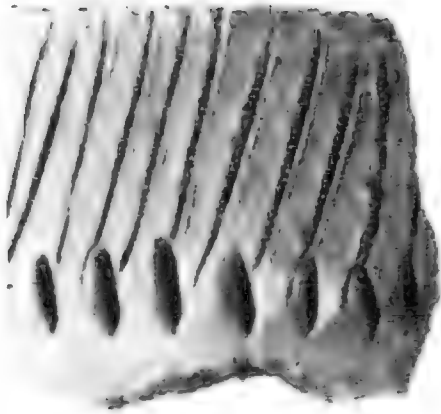


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PLATE XXIX

(½ natural size)

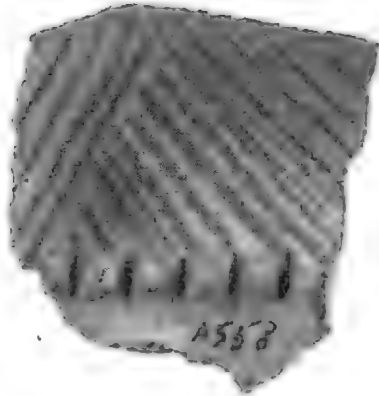
- Figure 1. Typical sherd of Wagoner Incised. From Rice's Woods site. In the collection of New York State Historical Society at Cooperstown, N.Y.
- Figure 2. Typical sherd of Wagoner Incised. From Wagoner Hollow site. In the collections of J. Lenig at St. Johnsville, N.Y.
- Figure 3. Typical sherd of Wagoner Incised. From Wagoner Hollow site. In the collections of J. Lenig at St. Johnsville, N.Y.
- Figure 4. Castellated sherd of Wagoner Incised. From the Garoga site. In the collections of the Peabody Museum of American Archæology and Ethnology, Cambridge, Massachusetts.
- Figure 5. Typical sherd of Rice Diagonal with the shoulder decoration. From the Otstungo site. In the collections of the Van Epps-Hartley Chapter at Schenectady, N.Y.
- Figure 6. Typical sherd of Rice Diagonal type. From Martin site. In the collections of the Van Epps-Hartley Chapter at Schenectady, N.Y.



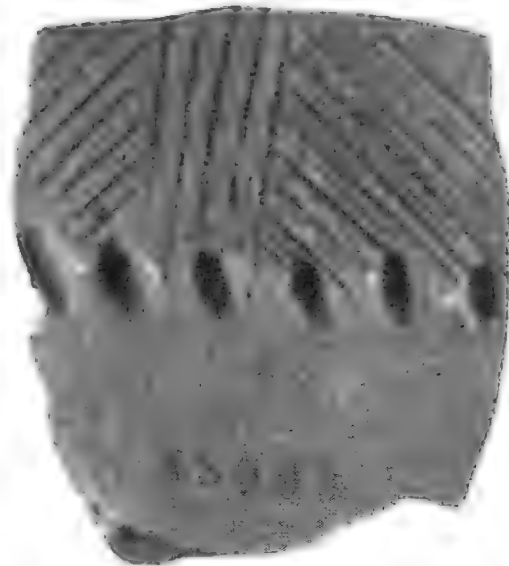
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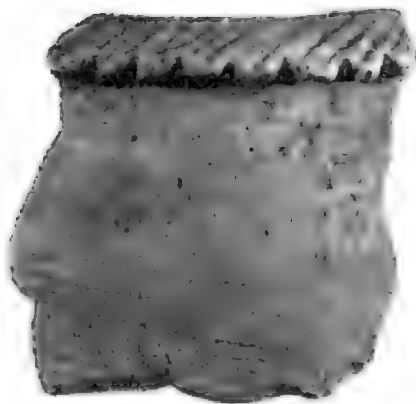
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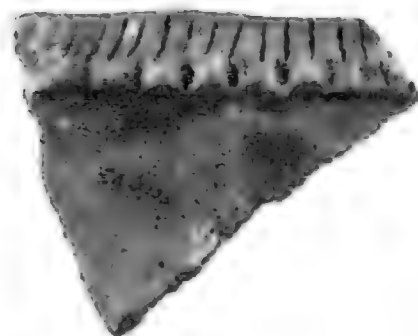
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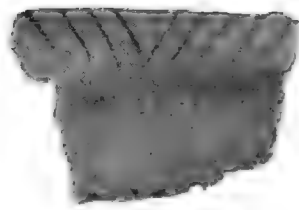
PLATE XXX

(½ natural size)

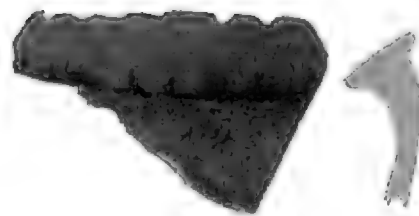
- Figure 1. Typical sherds of Otstungo Notched. From the Otstungo site. In the collections of the Van Epps-Hartley Chapter at Schenectady, N.Y.
- Figure 2. Rare variant of Otstungo Notched with opposed oblique lines on the lip. From the Garoga site. In the collections of the Peabody Museum of American Archaeology and Ethnology at Cambridge, Mass.
- Figure 3. Typical sherd of Otstungo Notched without decoration. From the Wagoner Hollow site. In the Lenig collection at Fonda, N.Y.
- Figure 4. Rare variant of Fonda Incised with notches inside parallel lines. From the Garoga site. In the collections of Peabody Museum of American Archaeology and Ethnology at Cambridge, Mass.
- Figure 5. Typical sherd of Fonda Incised. From the Garoga site. In the collections of the Peabody Museum of American Archaeology and Ethnology at Cambridge, Mass.
- Figure 6. Sherd of Fonda Incised with a typical decoration in the upper part of the collar. From the Martin site. In the Van Epps-Hartley Chapter at Schenectady, N.Y.
- Figure 7. Typical sherd of Fonda Incised. From the Garoga site. In the collections of Peabody Museum of American Archaeology and Ethnology at Cambridge, Mass.
- Figure 8. Sherd of Fonda Incised resembling Ontario Horizontal. From the Wagoner Hollow site. In the Lenig collection at Fonda, N.Y.
- Figure 9. Sherd of Fonda Incised. From the Cayadutta site. In the collections of the Rochester Museum.



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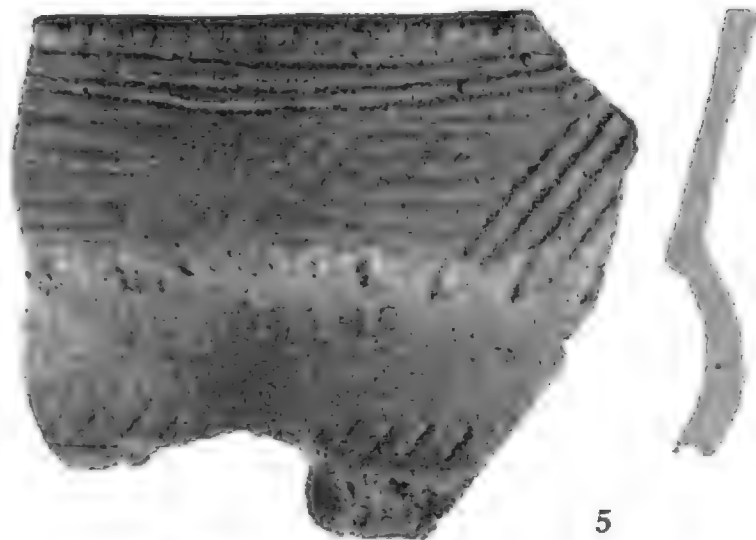
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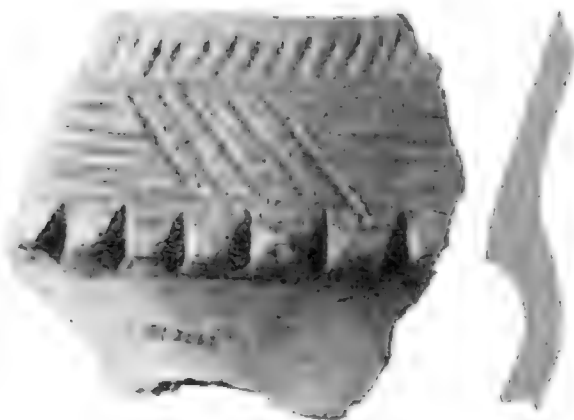
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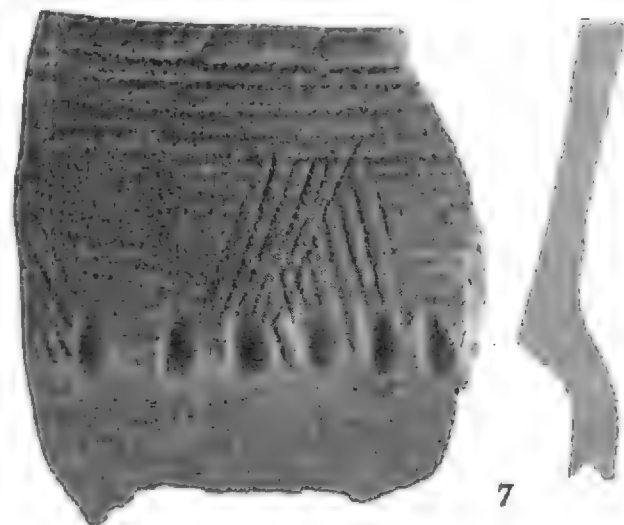
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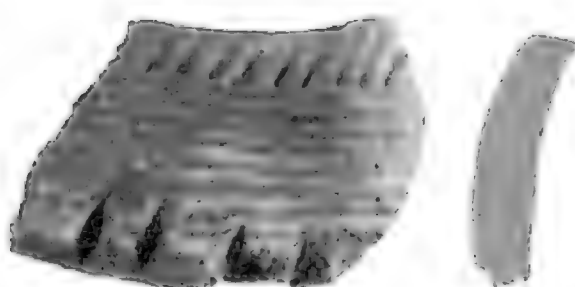
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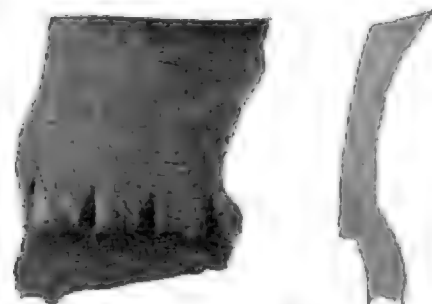
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PLATE XXXI

(½ natural size)

- Figure 1. Typical sherd of Otstungo Incised. From the Garoga site. In the collections of the Peabody Museum of American Archaeology and Ethnology at Cambridge, Mass.
- Figure 2. Typical sherd of Otstungo Incised. From the Garoga site. In the collections of the Peabody Museum of American Archaeology and Ethnology at Cambridge, Mass.
- Figure 3. Rare variant of Otstungo Incised. From the Garoga site. In the collections of the Peabody Museum of American Archaeology and Ethnology at Cambridge, Mass.
- Figure 4. Typical sherd of Otstungo Incised. From the Cayadutta site. In the Rochester Museum collections.
- Figure 5. Rare variant of Otstungo Incised. From the Martin site. In the collections of the Van Epps-Hartley Chapter at Schenectady, N.Y.
- Figure 6. Typical sherd of Otstungo Incised. From the Rice's Woods site. In the collections of the New York Historical Society at Cooperstown, N.Y.
- Figure 7. Typical sherd of Otstungo Incised. From the Otstungo site. In the collections of the Van Epps-Hartley Chapter at Schenectady, N.Y.



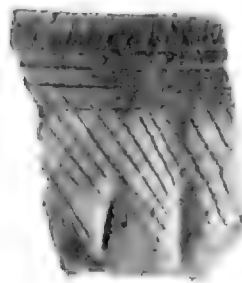
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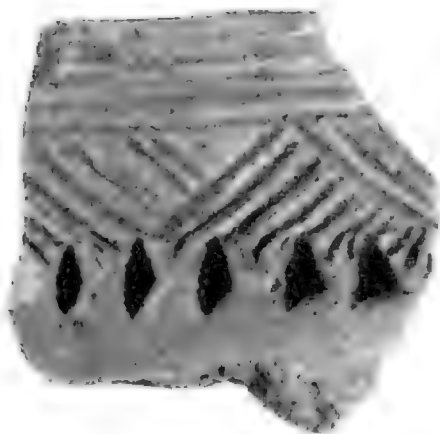
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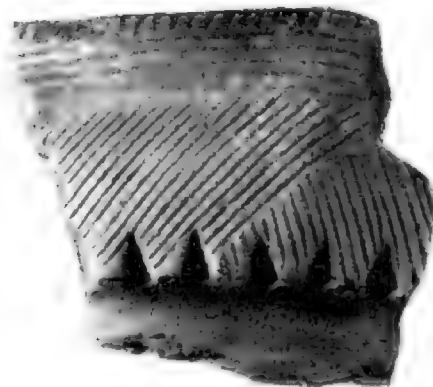
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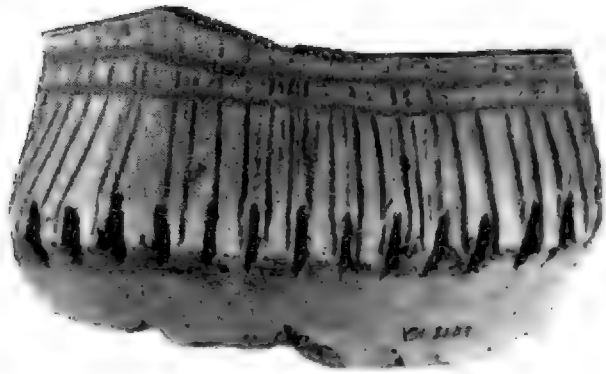


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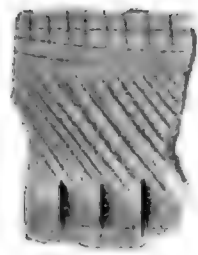
PLATE XXXII

 $(\frac{1}{2}$ natural size)

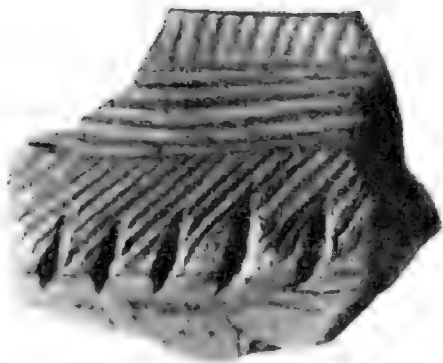
- Figure 1. Sloppily decorated sherd of Cayadutta Incised. From the Wagoner Hollow site. In the Lenig collection at Fonda, N.Y.
- Figure 2. Typical sherd of Cayadutta Incised. From the Cayadutta site. In the Rochester Museum collections.
- Figure 3. Typical sherd of Cayadutta Incised. From the Martin site. In the collections of the Van Epps-Hartley collection at Schenectady, N.Y.
- Figure 4. A typical sherd of Cayadutta Incised. From Wagoner Hollow. In the Lenig collection at Fonda, N.Y.
- Figure 5. A typical sherd of Cayadutta Incised. From Wagoner Hollow. In the Lenig collection at Fonda, N.Y.
- Figure 6. Typical sherd of Fonda Incised. From the Garoga site. In the collections of the Peabody Museum of American Archæology and Ethnology at Cambridge, Mass.



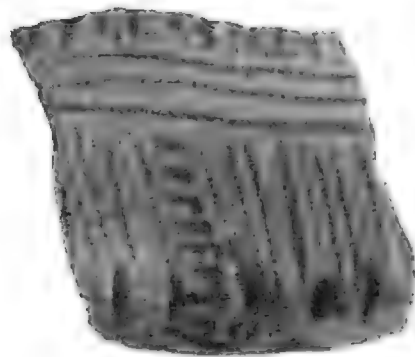
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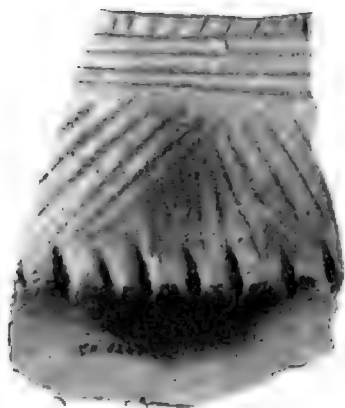
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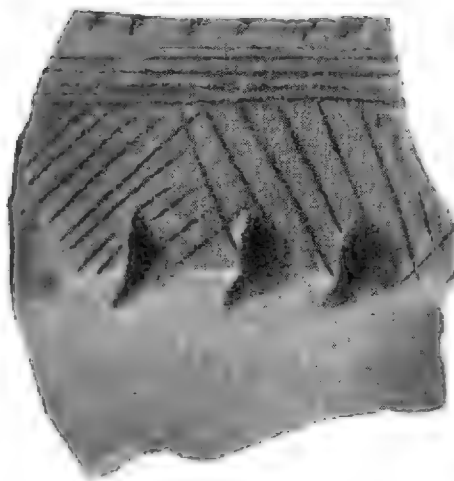
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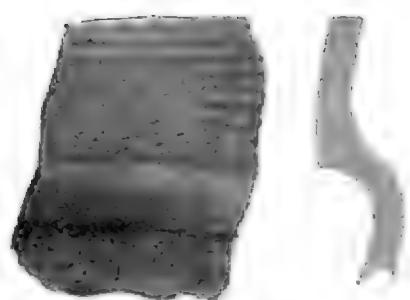
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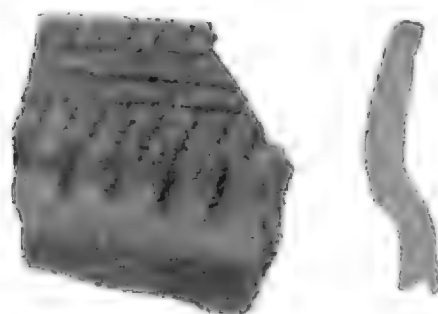
PLATE XXXIII

(½ natural size)

- Figure 1. Typical sherd of Oak Hill Corded. From the Esopus Creek site. In the Shafer collection at Poughkeepsie, N.Y.
- Figure 2. Typical sherd of Oak Hill Corded. From the Esopus Creek site. In the Shafer collection at Poughkeepsie, N.Y.
- Figure 3. Typical sherd of Goodyear Lipped. From the Esopus Creek site. In the Shafer collection at Poughkeepsie, N.Y.
- Figure 4. Variant of Chance Incised. From the Esopus Creek site. In the Shafer collection at Poughkeepsie, N.Y.
- Figure 5. Typical sherd of Chance Incised. From the Esopus Creek site. In the Shafer collection at Poughkeepsie, N.Y.
- Figure 6. Sloppily decorated sherd of Chance Incised. From the Esopus Creek site. In the Shafer collection at Poughkeepsie, N.Y.
- Figure 7. Typical sherd of Chance Incised. From the Esopus Creek site. In the Shafer collection at Poughkeepsie, N.Y.



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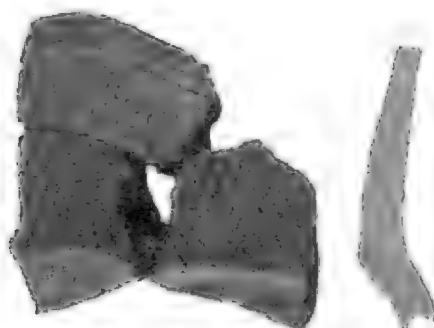
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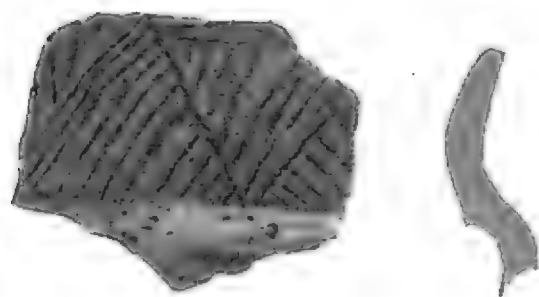
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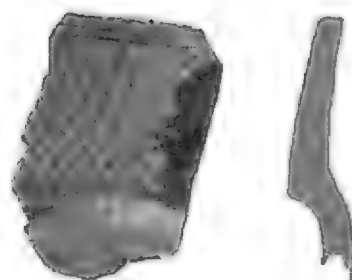
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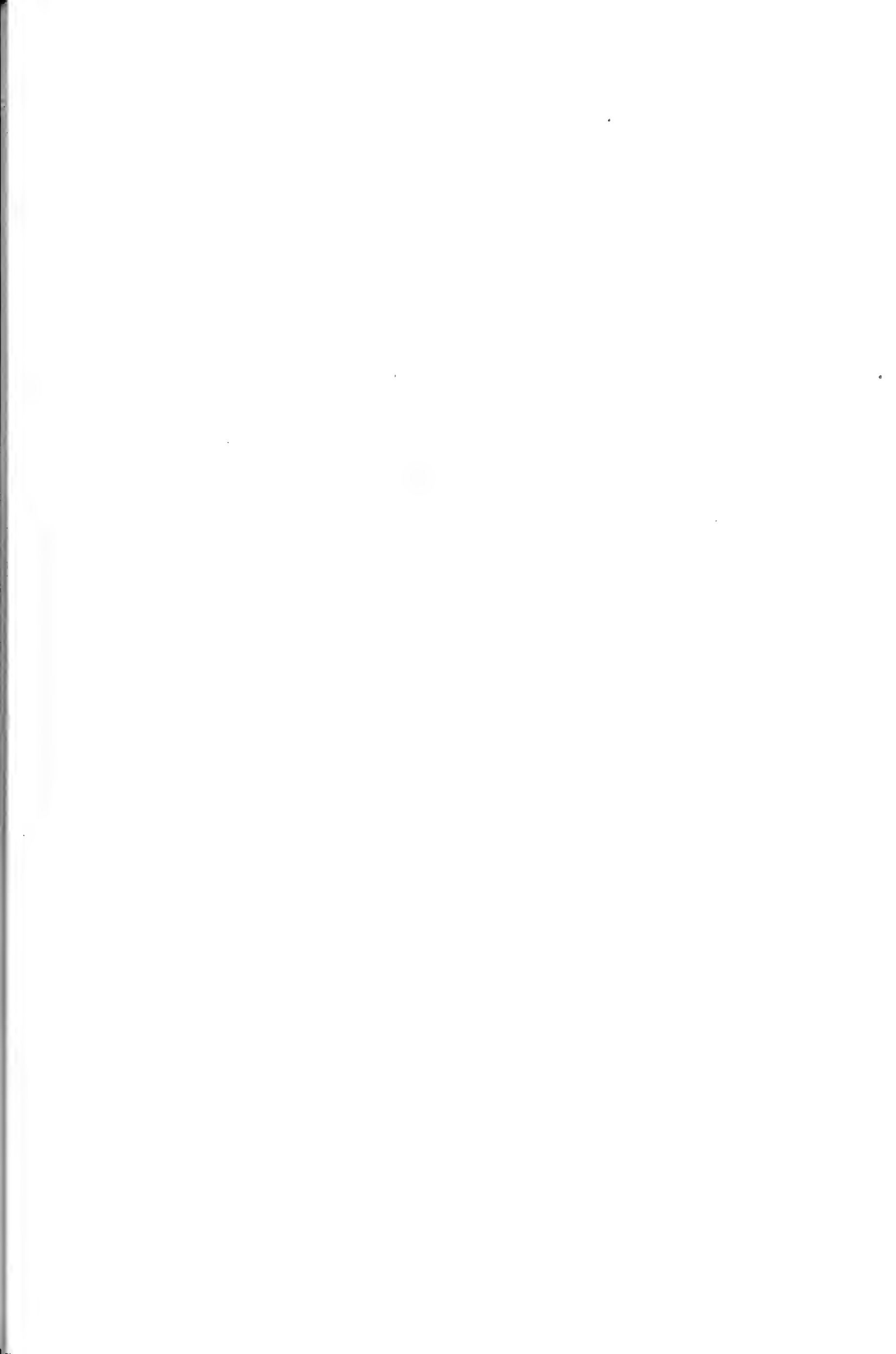
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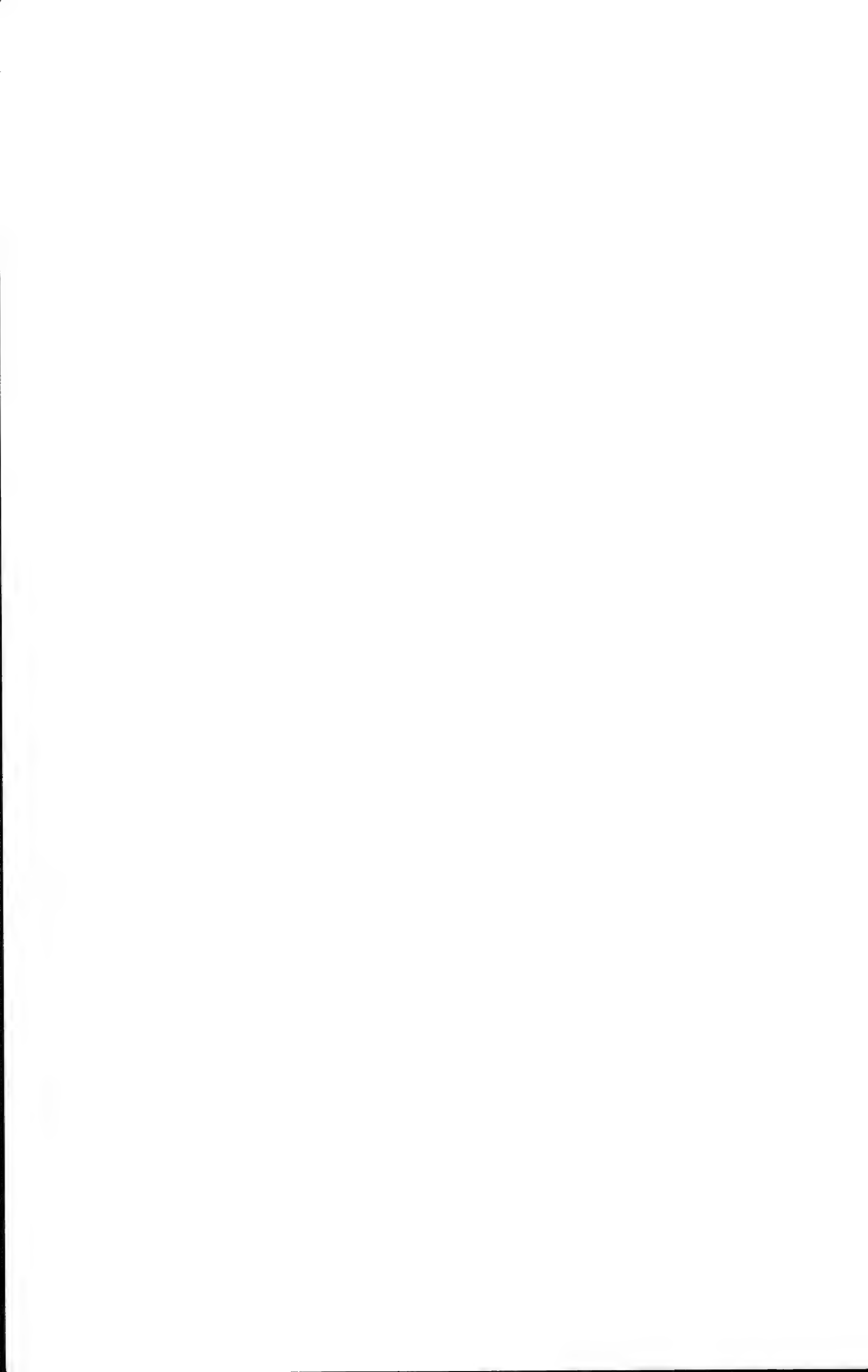
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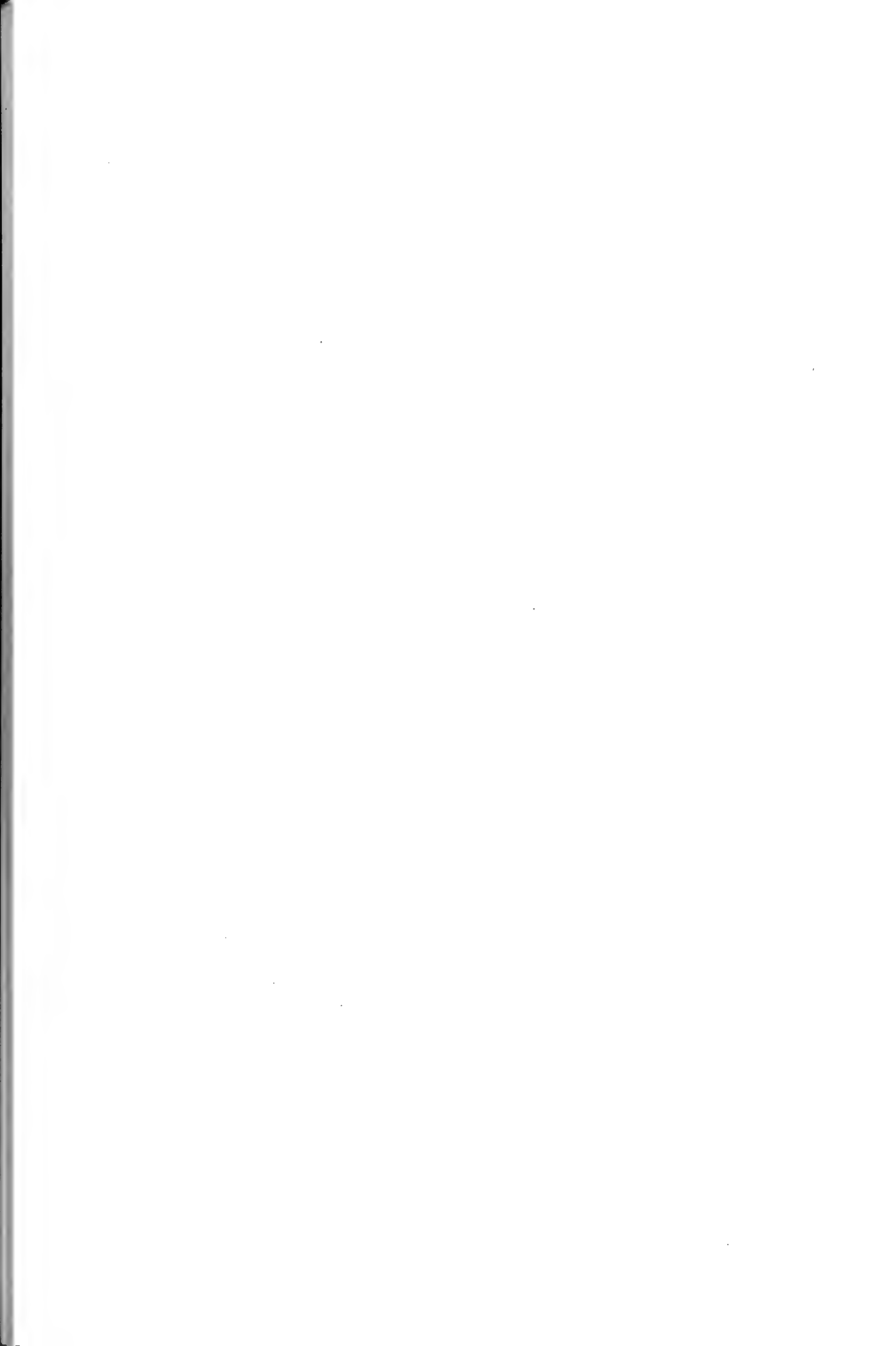


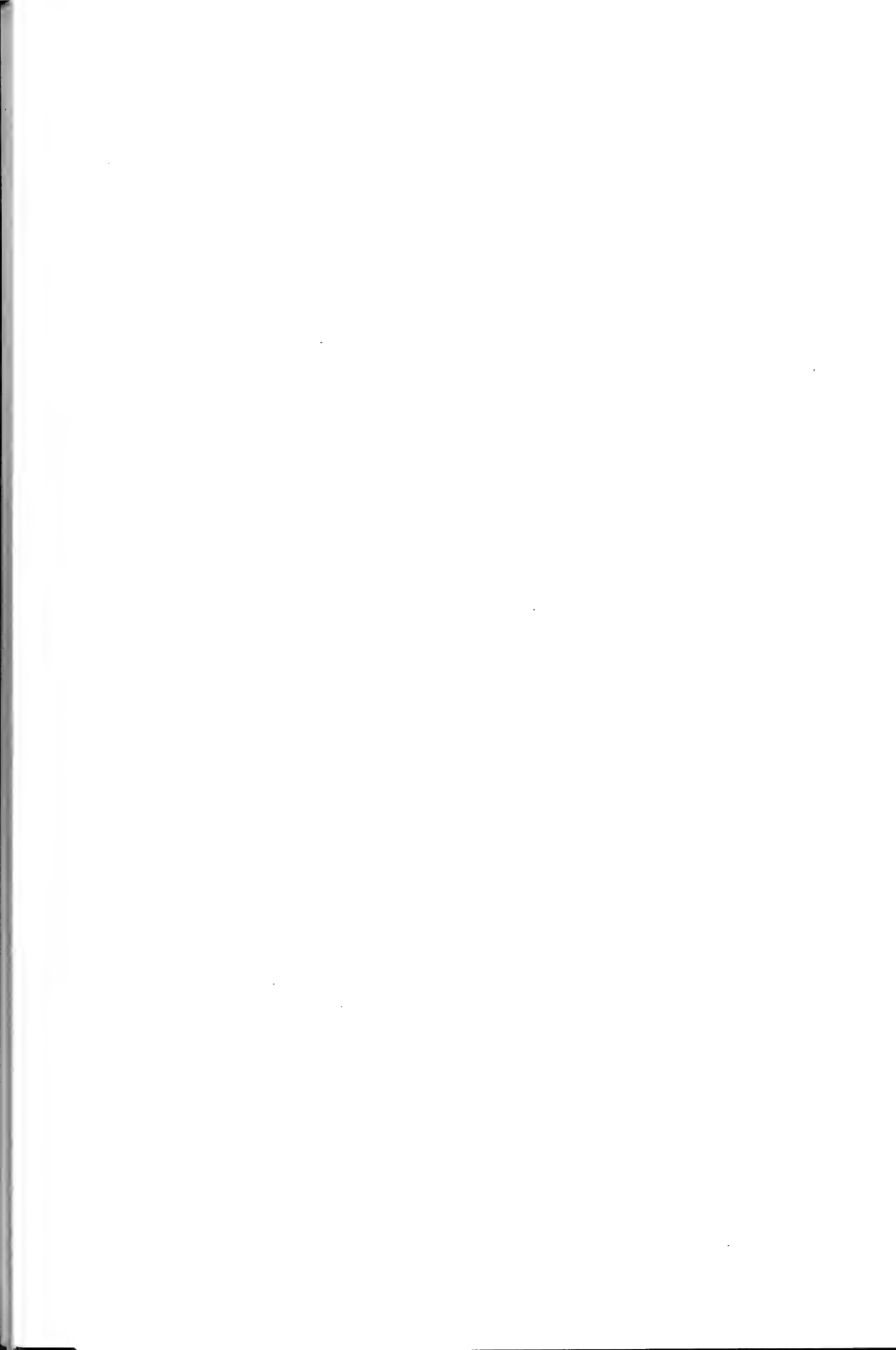
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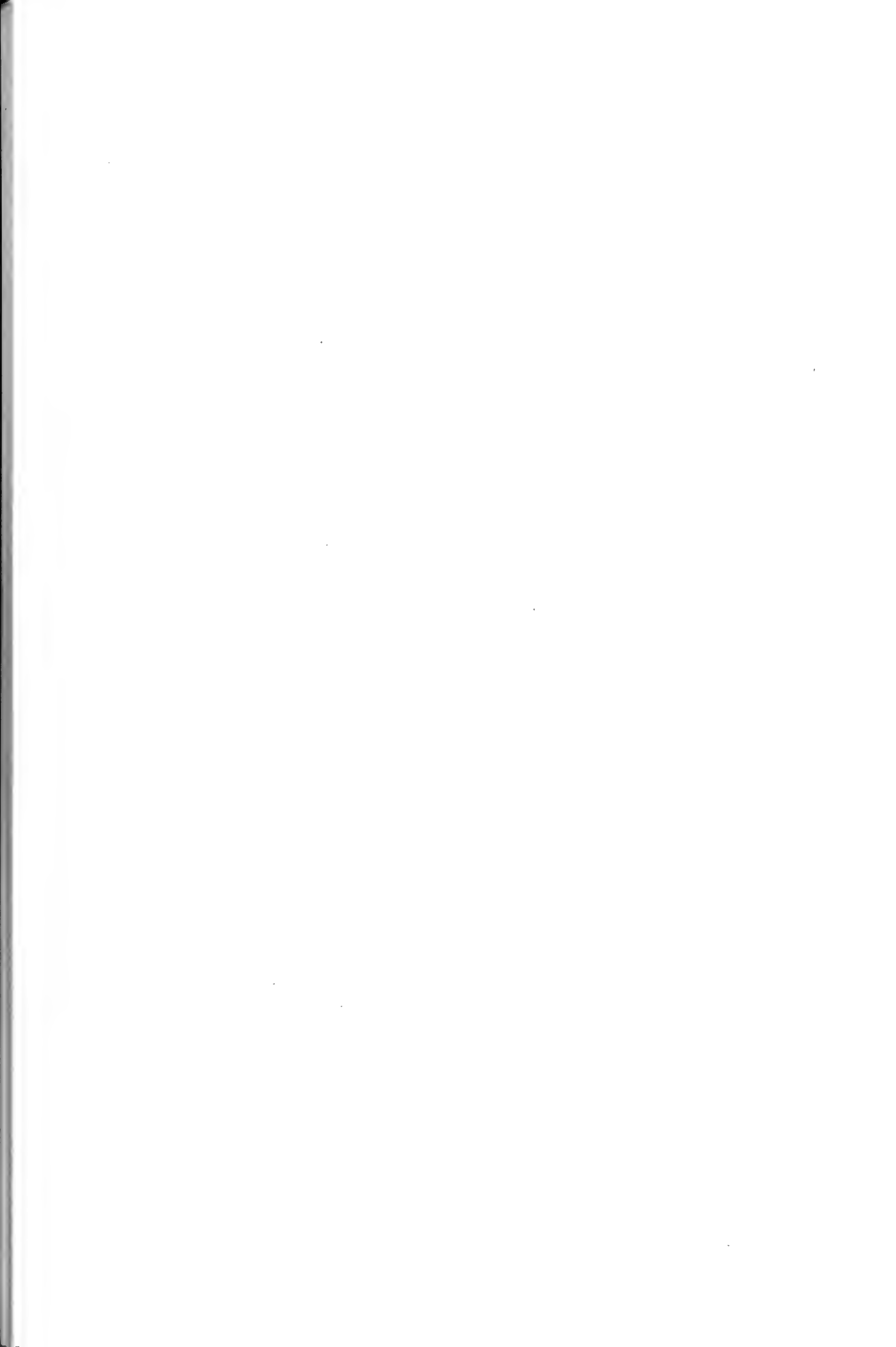
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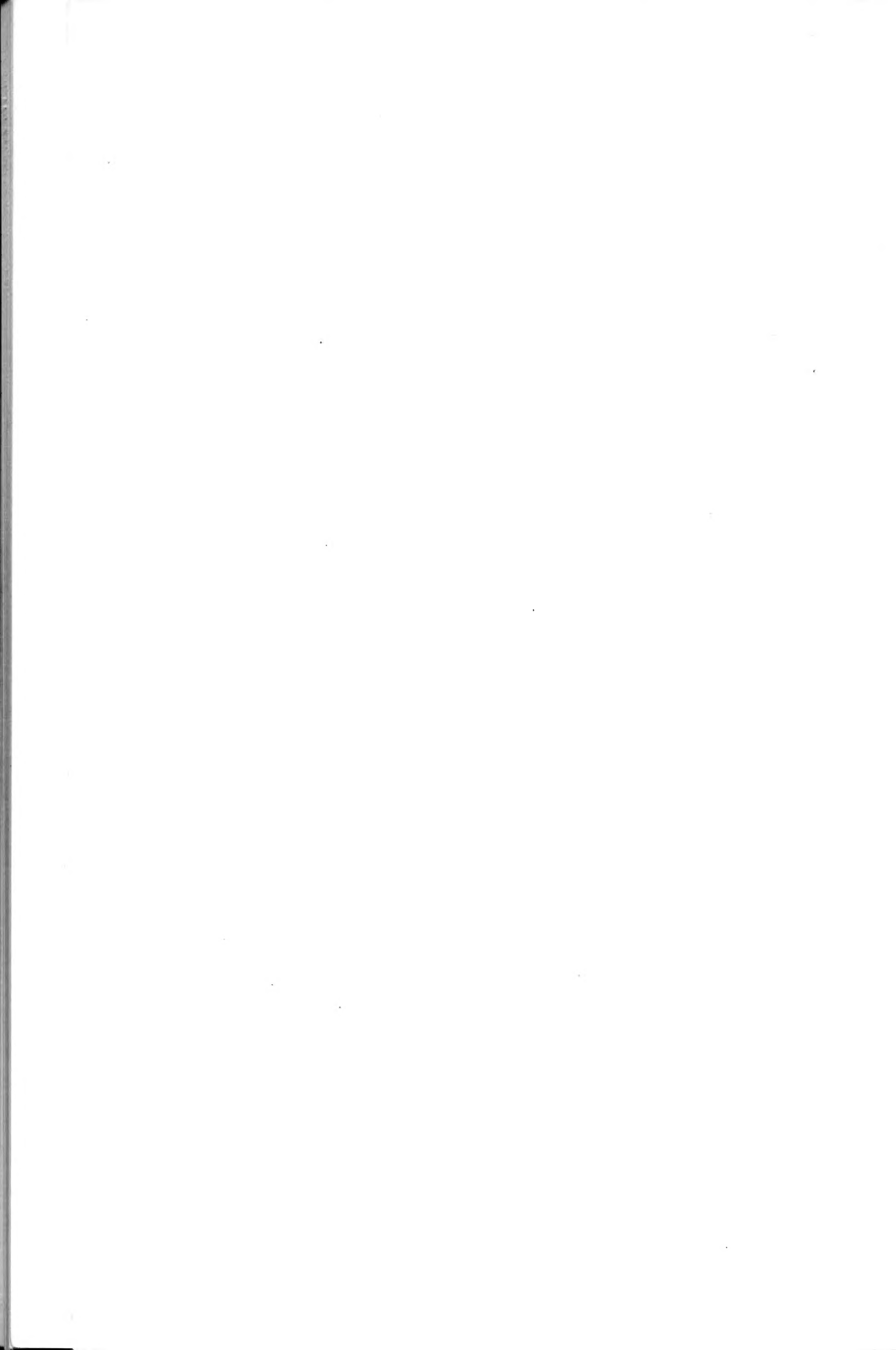
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